

# On the Mechanism of Customer's Participation in Innovation in Virtual Community

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**Abstract:** With the development of digitalization and Internet technology, virtual community, as a new social form, emerges constantly. In the virtual community, people can interact, communicate, share and cooperate with other users through the network platform, thus forming a community with common interests or goals. With the popularization and deepening of virtual community, more and more enterprises begin to pay attention to and use virtual community as a channel for marketing and product innovation. This paper introduces the concept and characteristics of virtual community, analyzes the significance of customers' participation in innovation and the motives of different customers' participation, and discusses the strategies for establishing the innovation mechanism of customers' participation in virtual community.

**Keywords:** Virtual Community; Customer Participation; Innovation; Mechanism.

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## 1. Introduction

With the development of information technology, virtual community has become a new business model, and more and more enterprises have begun to incorporate it into their own strategies and become an important part of modern enterprises. These communities provide a platform for closer interaction between customers and enterprises, help enterprises get more feedback and suggestions, and at the same time make customers participate in enterprise innovation. In a word, virtual community is an indispensable social form in today's digital age, which provides people with a wider and freer social space and more opportunities and possibilities for various fields.

## 2. The Concept and Characteristics of Virtual Community

### 2.1. The Concept of Virtual Community

Virtual community refers to a group of people connected through the Internet or other network technologies, who communicate, cooperate and interact on common interests, goals or activities. It is a social space based on network, which enables people to establish contact and interaction without being limited by time and place. The development of virtual community can be traced back to Internet applications such as BBS (bulletin board system System) in 1980s and IRC (Internet Relay Chat) in 1990s. With the development of Internet technology, virtual communities have gradually developed from simple online chat rooms and forums to complex social networking platforms [1]. For example, Facebook, Twitter, Instagram, LinkedIn, etc. These platforms have greatly promoted the interaction and information exchange between people.

### 2.2. Characteristics of Virtual Community

Compared with traditional communities, virtual communities have many unique characteristics and advantages. First of all, the virtual community has the characteristics of no geographical restrictions. Users can access the virtual community anytime and anywhere through the network, and interact and communicate with other users,

regardless of time and space constraints. Secondly, the virtual community is highly interactive and personalized. Virtual community provides a series of personalized services, such as recommendation, search and customization. Users can choose to join different communities according to their hobbies and needs, and communicate and interact with other users in the community to better meet the different needs and preferences of users. Finally, virtual community has the characteristics of openness and sharing. Virtual community provides a series of open interfaces and platforms, in which users can share their knowledge, experience and resources, create and share value with other users, and help enterprises, organizations and individuals to cooperate and innovate. Generally speaking, as a new social form, virtual community has many unique characteristics and advantages. With the development of digitalization and Internet technology, virtual community will increasingly become an important channel for enterprise marketing and product innovation [2].

## 3. The Motivation and Significance of Customer Participation in Innovation

### 3.1. Motivation of Customers to Participate in Innovation

Customers can be divided into expert customers, strict customers, leading customers, reference customers and trial customers according to their different motivations in the process of participating in new product development [3]. Expert customers are people with professional knowledge and skills in specific fields, and their motivation to participate in product development is to provide professional advice out of their interest and desire in their own professional fields. Through their participation, they can provide in-depth professional insights and suggestions for products, thus helping development teams solve technical or professional problems. Strict customers usually have very high requirements for products and have high expectations for the quality and performance of products. Their motivation to participate in product development is more to ensure that the products can meet their needs and expectations, so they usually put forward specific improvement suggestions and

pay great attention to every detail of the products in the hope of reaching the highest standards. Leading customers usually have keen insight into market trends and future development, and hope to promote the development and reform of the industry by participating in product development. Reference customers' motivation to participate in product development is mainly to provide their own recommendation and recognition, so as to increase the market recognition and sales volume of products, so they will actively participate in product promotion and share their experience with other potential customers. Trial customers are customers who are interested in new products and are willing to try them. Their participation in product development is more to provide initial feedback and experience on products, help development teams find potential problems and make improvements, and their participation can provide testing and verification for products before release, so as to ensure the feasibility of products in the market and user satisfaction. In a word, customers' motivations and ways to participate in innovation in virtual communities are diverse, and different types of customers have different motivations and ways to participate, but they all play an important role in product improvement and optimization. Therefore, enterprises should actively advocate and support customers to participate in innovation and achieve win-win and common development through close cooperation with customers.

### **3.2. The Significance of Customer Participation in Innovation**

In the virtual community, customer participation in innovation has become a trend, and its significance is not limited to the fields of enterprise marketing and product design, but also includes social value and economic benefits. In the virtual community, customers can give feedback to the products and services of enterprises through discussion, evaluation and suggestions, so as to help enterprises find problems and improve their space. Customers have diverse needs and ideas, and they can provide valuable ideas and suggestions, which can help enterprises better understand market demand and consumer behavior, thus improving their innovation ability and competitiveness [4]. At the same time, customers can feel that they are valued and respected in the process of participating in innovation, so that they can gain a sense of satisfaction and belonging. These positive experiences can enhance customers' recognition and loyalty to the enterprise, thus promoting them to choose the products and services of the enterprise in their future purchase behavior. The biggest significance of customer participation in innovation is that it can reduce the R&D cost of enterprises, thus bringing more economic benefits and social value. In the virtual community, enterprises can cooperate with customers to innovate and jointly develop new products and services, which can not only reduce the R&D investment within enterprises and reduce the R&D cost, but also improve the R&D efficiency, shorten the product development cycle, improve the quality and performance of products and services, and better adapt to market changes, thus bringing more benefits and profits to enterprises and more benefits and values to society. Therefore, enterprises should attach importance to the role of customers in innovation and actively cooperate with customers to innovate through virtual communities.

## **4. Strategies for Customers to Participate in the Establishment of Innovation Mechanism in Virtual Communities**

### **4.1. Create a Virtual Community Platform**

Virtual community platform is an important part of constructing virtual community, which provides customers with places for online communication, cooperation and sharing. When creating a virtual community platform, enterprises should first choose the appropriate type of virtual community platform. There are many types of virtual community platforms, including forums, blogs, Weibo and social networks. Different types of community platforms are suitable for different user needs and behavior habits. For example, forums are suitable for users to discuss and exchange specific topics, blogs are suitable for users to publish personal opinions and share experiences, and social networks are suitable for social interaction between users. Therefore, when creating a virtual community platform, it is necessary to choose a platform type suitable for the needs of the target customer group to provide services that are more in line with customer needs [5]. On this basis, the virtual community platform should provide diversified services as much as possible to meet the needs and preferences of different customers. For example, online education, entertainment games, e-commerce and other functional modules can be provided to increase customer stickiness and activity; You can also introduce emerging technologies such as virtual reality and artificial intelligence to provide customers with more interactive and experiential services.

In order to ensure the long-term development of the virtual community platform, it is necessary to formulate clear management rules and processes when creating the virtual community platform, including the norms and handling methods of user registration, posting, commenting and reporting, and establish a perfect management team and technical support system to respond to user feedback and complaints in time and ensure the safe and stable operation of the community platform. At the same time, we should pay attention to protecting customer privacy and data security. The development of virtual community platform is inseparable from the trust and support of customers, and protecting customer privacy and data security is the key to win customer trust. When creating a virtual community platform, it is necessary to formulate strict privacy protection policies and data security measures, clarify the collection, use and protection methods of customer data, and prevent the risk of customer information disclosure and abuse. In a word, creating a virtual community platform is a complex and long-term process, which needs to consider many factors. Only through reasonable planning and operation can the sustainable development of community platforms and the virtuous circle of customers' participation in innovation be realized.

### **4.2. User Feedback and Opinion Collection Mechanism**

With the continuous development of Internet technology, virtual community has become an indispensable part of people's daily life. In the virtual community, customer participation in innovation has become an important trend. How to establish an effective user feedback and opinion

collection mechanism is the key to realize customer participation in innovation. In order to design an effective user feedback and opinion collection mechanism, it is necessary to define the target group. Different virtual communities have different user groups, and their needs and habits will be different [6]. Therefore, when designing the user feedback and opinion collection mechanism, we should determine different target groups according to different virtual communities and carry out relevant work in a targeted manner. At the same time, in order to meet the different needs of users, enterprises should provide diversified feedback and opinion collection channels. For example, a special feedback and opinion collection section can be set up in the virtual community, allowing users to express feedback and opinions by posting and commenting. Or you can set up online questionnaire survey, email feedback and other forms of feedback channels, so that users can choose the most suitable way to give feedback and express their opinions. For the feedback and opinions submitted by users, enterprises should reply in time, and improve products or services according to the feedback and opinions of users [7], and organize the feedback and opinions of users into reports or summary tables for the reference of enterprise decision makers, so as to better understand the needs of users and market changes. User feedback and opinion collection in virtual communities need to be constantly optimized and improved. Therefore, enterprises should also establish a good opinion communication mechanism to keep close contact with users. In addition to timely understanding their feedback and opinions, they should also transmit relevant information to users through various channels, so that users can feel the care and support of enterprises. In a word, the establishment of user feedback and opinion collection mechanism in virtual community needs to comprehensively consider multiple factors in order to better meet user needs, improve user satisfaction and promote the sustainable development of enterprises.

### 4.3. Creative Collection and Selection Mechanism

In the mechanism of customer participation in innovation in virtual community, the establishment of creative collection and selection mechanism is a very important link, which can effectively stimulate customers' creativity and enthusiasm for participation and help enterprises better understand customer needs [8]. In practice, enterprises can regularly hold various types of activities to solicit ideas, such as creative competitions, research questionnaires and so on. Through these activities, attract more customers to participate in the creative collection, and enhance customers' awareness and stickiness to the virtual community. When collecting ideas, enterprises should also pay attention to the convenience and diversity of creative submission methods. For example, set the "I want to contribute" button on the homepage of the website, or set up a special creative collection section in the community, so that customers can submit their ideas more conveniently and improve their participation. In addition, the selection of creativity is the key to determine the effectiveness of creativity collection, so a fair and just selection mechanism should be established. In practice, enterprises can adopt an open selection method, so that all community users can participate in the selection. This can not only increase users' sense of participation and belonging, but also increase the fairness and transparency of the selection. Before the creative

selection, it is necessary to establish clear selection criteria, comprehensively consider the innovation, practicability and feasibility of creativity, and make the selection process more scientific and standardized through clear selection criteria.

### 4.4. Reward and Incentive Mechanism

By providing incentives and incentives, enterprises can effectively promote users to participate in innovation activities, thus improving product quality, reducing costs and increasing enterprise benefits [9]. In practice, enterprises can carry out more activities with gift rewards in virtual communities. For example, when enterprises invite users to submit ideas, share experience and participate in surveys, they can provide participants with gift rewards such as coupons, vouchers and physical prizes, so as to stimulate the enthusiasm of users to participate and enhance their loyalty to the enterprise. At the same time, enterprises can also set up a points system in the virtual community to encourage users to participate in innovative activities and get points. Users can exchange points for virtual goods or physical prizes, and on this basis, set up different levels of members, promote the membership level according to the degree of users' contribution and the number of points, and provide different privileges and benefits to promote users' participation and investment and increase users' activity in the virtual community [10]. Besides, the educational function in the virtual community can also be used to encourage users to participate in innovative activities. For example, enterprises can offer some online training courses to help users learn relevant knowledge and skills, and provide certificates and certifications; Experts and scholars can also be invited to share the latest research results and development trends to help users understand the frontier and future direction of the industry, which can not only improve users' ability and quality, but also enhance users' trust and recognition of the enterprise. In a word, the reward and incentive mechanism in virtual community is of great significance for promoting users to participate in innovative activities. Enterprises should adopt different reward and incentive methods according to users' needs and behavior habits to achieve the best results.

## 5. Conclusion

To sum up, the mechanism of customer participation in innovation in virtual community can help enterprises better understand market demand and user demand and promote the benign development of enterprises. In practice, enterprises should constantly adjust and optimize it according to their own situation and goals, so as to better understand customers' needs and expectations, find potential problems, enhance customers' enthusiasm for participating in innovation, and further improve the sustainability and effectiveness of customers' participation in innovation in virtual communities.

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