

Research on the Influence Mechanism of Personality Traits on Value Co-creation

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Abstract: Consumers are important participants in value co-creation activities, but there are few studies on the mechanism by which consumers with different personality traits influence value co-creation activities. From the perspective of consumer centered modern economy, this paper divides personality traits into introverted and extraverted personality dimensions, and explores the internal mechanism of the influence of consumer personality traits on value co-creation through interpersonal interaction and network centrality. Through the empirical analysis of 224 Internet questionnaires by structural equation model, the results show that extraverted personality has a significant positive impact on interpersonal interaction, but introverted personality lacks a significant positive impact on interpersonal interaction, interpersonal interaction has a significant positive impact on the formation of individual network centrality, and network centrality has a positive impact on value co creation.

1 Introduction

In the modern economy, consumers are no longer the passive recipients of the product value of enterprises, but the active participants in value creation. Therefore, the business model of enterprises gradually changes from the product oriented logic to the service-oriented logic [1]. In this context, on the basis of meeting the needs of consumers, encouraging consumers to participate in the value creation activities of enterprises is not only conducive to product and service innovation, but also conducive to the brand more easily accepted by consumers. Therefore, how to improve the quality of value co-creation with customers, and let customers actively participate in the interaction is one of the concerns of service-oriented enterprises.

Existing research literature shows that there are many factors affecting value co-creation, including network embedding, network public opinion, customers, brands, sharing economy and so on. The difference of consumer's personality traits will have different effects on value co-creation. So it is of positive significance for enterprises to explore how different personality traits affect value co-creation. Most of the existing researches on personality traits focus on individual behavior, emotional regulation, and performance and so on.

Based on the above, this paper constructs a research model that individuals with different personality traits interact with each other in the network community to form network centrality, and then act on value co-creation. And we use empirical research methods to verify, aiming to guide enterprises to incorporate customer participation into value chain creation management activities, and build a new value chain structure.

2 Theoretical Bases and Research Hypothesis

Trait is the internal tendency of an individual to respond to situations in different situations, which is consistent and stable, and can dominate individual behavior [2]. The theory of personality traits can explain the differences of individual behavior and experience [3]. Individual motivation,

social network and self-social capital may be closely related to personality traits. Different personality traits have different external performance, introverted and extroverted individuals have significant differences in social ability, communication ability, activity and exposure, which makes them have significant differences in interpersonal interaction performance. So it is speculated that individual interpersonal interaction is affected by personality traits. Some studies have shown that the social status of individuals in interpersonal interaction is related to their personality traits [4]. They believe that the personality traits of individuals affect their sense of identity in the group, and the characteristics of extroverted individuals make them more concerned in interpersonal interaction. Their social skills and charisma help them to obtain a higher social status, and their interpersonal interaction in the group is more significant, which can affect the interaction and exchange willingness of group members. Compared with the extraverted individuals, the introverted have a strong defensive psychology. They are not easy to reveal their true feelings and like to hide. They seldom participate in discussions and express their opinions on topics, which makes others not impressed with them and makes the introverted not easy to gain interpersonal trust and identity. Based on the above, the following assumptions are proposed:

H1: Extraverted personality traits have a significant positive impact on interpersonal interaction

H2: Introverted personality traits lack a significant positive impact on interpersonal interaction

Interpersonal communication is the main way for people to establish social networks for obtaining information, emotional communication and resources. Interpersonal interaction will affect the position of individuals in social networks. The strength of network centrality reflects the frequency of individual communication and interaction and the number of contact points. When the frequency of interaction between individuals and other people is higher, the communication range is wider, and there are the more connections in their network centers [5]. Generally speaking, the high interactivity is more likely to have diversified communication than the low interactivity, which is conducive to the establishment of more weak joint relationships [6]. The more contacts individuals have in the group, the closer they are to the center in the social network, and the easier they are to obtain more social resources. And form their influence on the group and their sense of superiority, share more information and resources with other members, so as to expand their control in the group and strengthen their position in the group network. The low interactivity tend to have less or even no communication in the group, which makes their sense of existence in the group is not strong, their interpersonal relationship with other individuals in the group is not close, and the sharing and acquisition of information resources are not as good as the high interactivity, resulting in their position in the network deviates from the center. Based on the above analysis, the following assumptions are proposed:

H3: Interpersonal interaction has a significant positive impact on network centrality

The process of customer participation in value co-creation is that customers actively participate in the production and sales activities of enterprise products, interact with enterprises and their stakeholders [7, 8], and enterprises listen to and adopt customer suggestions. Some scholars believe that network centrality will affect the participation of customers in value co-creation activities [5]. Individual network centrality reflects the influence of individuals in the group and the social resources they have. The stronger the network centrality of an individual, the higher the discourse power in the group, and can rely on its central position to undertake the information flow and resource flow in social networks[9,10], and guide the information resource sharing among group members. Some researchers think that individuals with strong network centrality have higher value contribution and innovation spirit, and can promote higher performance [11]. Because their central position in the network can make them quickly get the information and resources they want, which reduces the cost of information collection, and enterprises with consumer experience and service-oriented logic can use these individuals with strong network centrality to obtain information, and guide customers to participate in value creation activities. Based on this, the following assumptions are proposed:

H4: Network centrality has a significant positive impact on value co-creation

According to the above analysis, the theoretical model proposed in this study is shown in Fig.1:

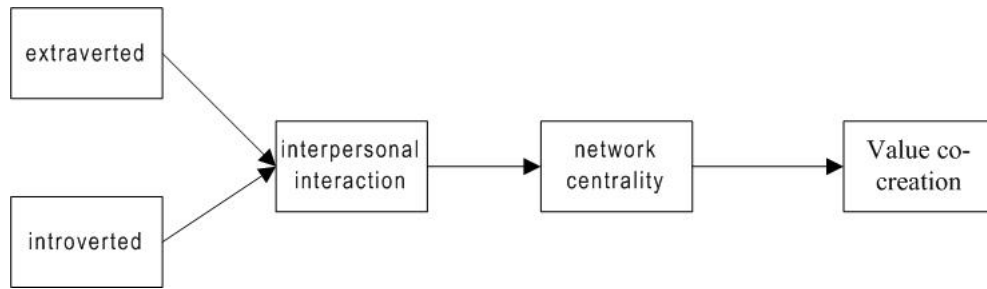


Figure 1. Research model

3 Research Design And Data Collection

3.1 Questionnaire Design and Data Collection

In this study, data were collected in the form of questionnaires, and variables were measured with Likert 7 point scale, among which personality traits were measured by the related scales developed by McCrae and Costa [12], and interpersonal interaction was measured by the interpersonal interaction scale developed by Preece et al. [13]. Freeman [14] measurement scale is adopted for network centrality, and Zwass [15] scale is used for reference for value creation. In order to ensure the accuracy of the survey, the network was used to collect data, and quality control was carried out. Finally, strict data screening was carried out. A total of 224 questionnaires were collected, 85 invalid ones and 139 effective ones, with an effective rate of 62%. Among them, there are 70 males and 69 females in the sample; most of them have bachelor's degrees, and most of them have incomes below 1000 yuan and 1001-2000 yuan. The time of joining the virtual community is within one year, and the interaction frequency is more once every half a month

3.2 Reliability and Validity Analysis

In this study, the commonly used Cronbach's Alpha coefficient was used to test the reliability of each variable. The reliability of the data collected in this paper is measured, and the reliability of the measurement is analyzed. Test the overall reliability of each measurement variable, and analyze the consistency of the sample data of each measurement variable. The results are shown in Table 1:

Table 1. Overall Reliability of Variables

Variable	Cronbach's Alpha	Standardized Alpha	Cronbach's Alpha	Number of Items
Extraversion	0.913		0.918	6
Introversion	0.916		0.923	6
Interpersonal-Interaction	0.919		0.919	4
Network Centrality	0.954		0.955	4
Value Co-Creation	0.971		0.971	4
Overall Reliability	0.963		0.963	24

It can be seen that the overall measurement reliability of each variable is above 0.9. Therefore, the items of each variable are tested for reliability, and the items that affect Cronbach's alpha greatly are deleted. After deletion, the overall reliability of the test sample is 0.963, indicating that the overall reliability level is good. KMO and Bartlett spherical tests were carried out on the sample data with SPSS statistical software, KMO = 0.914, greater than 0.9, Sig = 0.000 and less than 0.05, indicating that the sample meets the requirements. The results are as follows:

Table 2. Test of KMO and Bartlett

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.914
Bartlett's Test of Sphericity	Approximate Chi-Square	1605.855
	df	91
	Sig.	0

3.3 Model Test and Discussion

In this study, amos24.0 is used to test the hypothesis model. The fitting index of the model is $\chi^2/df=1.977$, RMSEA = 0.082, CFI = 0.959, TLI = 0.95. The indexes of the model basically meet the evaluation criteria. In this paper, the standardized path coefficient and P-value in the standardized estimate model graph are summarized as table 3, and the four hypotheses are supported respectively.

In this paper, the standardized path coefficient and P value in the standardized estimate model graph are summarized as table 3, and the four hypotheses are supported respectively.

Table 3. Results of Model Hypothesis Test

Route	Estimate	P-value	Conclusion
Extraverted personality-->Interpersonal Interaction	0.142	.033*	support
Introverted personality-->Interpersonal Interaction	-0.828	***	support
Interpersonal interaction-->Individual Network Centrality	0.897	***	support
Individual network centrality-->Value Co-creation	0.843	***	support

Extraversion personality traits have a significant positive effect on interpersonal interaction. The test results support this hypothesis, which shows that the extraversion of individuals is easy to eliminate each other's psychological barriers in interactions with others, so as to increase their emotional and interaction frequency with others. The individual's extraversion is higher, the emotional response with others is better, and the degree of interaction with others is higher. In this process, interpersonal trust and social status of the group will also be improved.

Introverted personality traits have no significant positive effect on interpersonal interaction. The test results support this hypothesis. It shows that the introverted personality of an individual, due to its own characteristics of being reticent and not active, will not be conducive to enhancing their feelings and trust with others, and it is difficult to enhance the social status of the group, thus affecting the interaction with others. The degree of introversion is higher; the degree of interaction with others is lower.

Interpersonal interaction has a significant positive impact on the network centrality of individuals, and the test results support this hypothesis. It shows that the stronger the individual's interpersonal interaction ability, the stronger the network centrality of the individual. Because living in different environments, each person has different knowledge, experience, information and other aspects. If an individual has the information and resources that group members seek, it will become an important node in the group through interpersonal interaction.

Network centrality has a significant positive impact on value co-creation, and the test results support this hypothesis. It shows that the stronger the network centrality of individuals, the greater the impact on the activities of value co-creation. Network centrality reflects the influence, information and resources of an individual in a group. When the network centrality of an individual is very strong, the individual will get a lot of additional information and resources. Using these information and resources can drive group members to participate in value creation activities together, and the higher the value will be.

4 Marketing Enlightenment and Research Limitations

4.1 Marketing Enlightenment

The results of this study provide some enlightenment for enterprises to carry out value creation activities with customers.

(1) The results of this study show that different personality traits can promote different levels of interpersonal interaction. So enterprises need to pay attention to the relationship with customers and actively promote the interpersonal interaction of consumers. Enterprises should not only focus on the introduction of good products, but also actively develop the relationship between enterprises and customers. And it is necessary to promote the interpersonal interaction among consumers, and promote the formation of individual network centrality, in order to improve the image and customer experience of enterprises in the hearts of customers. When enterprises attach importance to the management of the relationship with consumers, they should not only focus on building a platform for interactive communication between enterprises and consumers, but also optimize the platform and ensure the fluency of communication between customers, so as to provide customers with a good experience of communication and interaction. In addition, enterprises should pay attention to the quality of interaction and the role of extraverted consumers in the group. Extraverted consumers should take some incentive measures to give full play to their own advantages in the group to help other customers integrate into the platform group atmosphere.

(2) This research helps enterprises realize the importance of network centrality in value creation activities of enterprises and customers. In the era of increasing emphasis on consumer management, based on the perspective of experience and service marketing, enterprises should not only pay attention to the relationship with customers, but also take measures to improve the formation of individual network centrality in the group. The research results verify the impact of network centrality on value co-creation, which enlightens managers to enhance individual's influence in the group by encouraging customer interaction. It also urges individuals to build their own network centrality to guide other consumers to participate in the activities of enterprise value co-creation, obtain customers' experience and actively adopt effective suggestions and demands of consumers.

4.2 Research Limitations

In this paper, interpersonal interaction and network centrality are used as mediators to study the influence mechanism of introverted, extroverted personality traits dimension on value co-creation, but there are some limitations. First of all, the number of effective questionnaires is not enough, the data is not representative enough, and only discusses the extraversion personality dimension of personality traits, does not use the personality dimension in the big five personality model to study its impact on value co-creation, and ignores the differences of different degrees of extraversion and other personality dimensions, which reduces the pertinence of the research on the influence of different personality dimensions on value co-creation. Secondly, this paper takes interpersonal interaction and network centrality as mediating variables, and does not explore the mediating role of interpersonal interaction directly between personality traits and value co-creation, which dimensions of interpersonal interaction affect network centrality, which dimensions lead to network centrality having the greatest impact on value co-creation, and whether there are other mediators between personality traits and value co-creation. Future research can be carried out around these aspects.

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