

Research on The Influence of Identity on Customer Engagement in Virtual Community: The Intermediary Role of Perceived Value

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Abstract: Identity helps key opinion leaders attract attention, improve competitiveness and transmit network flow into economic interest. Therefore, it is of great significance to study the mechanism of identity to help key opinion leaders, brand enterprises and virtual community platforms to improve operating efficiency and reduce operating costs. According to identity theory and other theoretical methods, this paper studies the impact of identity on customer engagement under the regulation of different cooperative brand popularity by Python text mining, SPSS statistical analysis and other methods. It explores the intermediary role of perceived value between identity and customer engagement.

Keywords: Virtual community, Identity, Perceived value, Customer engagement.

1. Introduction

By December 2020, the number of mobile social users has reached 989 million in China. The rapid growth of users in virtual communities has made virtual social media a significant scene of life. With the awakening of identity awareness, the issues of audience identity represented by self-identity and group identity continue to receive attention from public and social. A user transmits and receives identity information in the online interaction process. The autonomous communication behavior enables the user to constantly improve his understanding of the identity of key opinion leaders. In this process, the identity of a user are formed. As we all know, Tajfel (1970, 1971) has proposed that social identity will affect people's behavior originally[1]. Akerlof and Kranton (2010) also proposed that identity will affect people's economic decision-making behavior[2]. In recent years, the key opinion leaders in the virtual community compete for attention and attraction, long for love and recognition of users. They recommend products to fans through sharing notes. The key opinion leaders of Little Red Book have become the focus of attention of all mobile Internet e-commerce communities by obtaining love and recognition to achieve successful marketing. Studying the impact of identity on customer engagement can not only help online community and key opinion leaders to market more effectively, but also help brands to choose key opinion leaders for cooperation reasonably, which is of great significance.

Therefore, this paper takes the Little Red Book Notes associated with facial essence on the UGC e-commerce community platform as the research object. Using Python and SPSS tools to conduct empirical research, it extracts three characteristics including professional type identification, shopping style identification, perceived value, when it takes four features of Little Red Book as the control variables including the gender, level, number of pictures, and number of fans. As the measure of customer engagement, the number of likes of Little Red Book Notes is used to study the mechanism of customer engagement. It mainly explores the following relationships: (1) the impact of professional type identity, shopping style identity and perceived value on

customer engagement; (2) Perceived value plays a mediating role in the influence of professional type identity and shopping style identity on customer engagement.

2. Theoretical Basis

(1) Identity Theory

The study about identity has a long history. To explore the definition of identity, we should explore the definition of identity. When defining the term "identity", there are several common explanations: one refers to origin and social status, the other refers to status, and the third refers to appearance, posture and posture. Identity is a kind of emotional judgment generated subjectively by people. Identity will have a very important impact on user behavior. Sen (1985) introduced identity into economic research in the earliest. He pointed out that identity is how people see themselves[3]. Akerlof and Kranton (2000) introduced social identity theory into economic analysis and formed "identity economics". They believed that identity described the social classification and self-image of individuals including the classification of individuals to other people, and described how individuals feel about themselves and the impact of people's actions on this feeling[4]. Akerlof and Kranton (2010) believed that identity defined its social type, connected with certain social norms and affected its decision-making [5].

(2) customer engagement

Before the 1990s, the marketing field mainly focused on the transaction behavior of users. With the continuous development of the business model, in the early 21st century, enterprises began to gradually move towards relationship marketing and began to achieve customer engagement through various ways. They are focusing on how to establish a positive relationship in users, products and services, which also led to constant discussion on the concept of "engagement" in academic practice and management practice[6]. Van Doorn (2010) believed that user fit behavior refers to the user's behavior other than consumption on a brand or manufacturer driven by some motivating factors, such as word of mouth, recommendation, helping other users, blog writing, comments, etc.[7]. Kumar and Pansari (2016) pointed out in their research on "the competitive advantage of

customer engagement" that psychological factors at the user group level, including brand connection, community identity, can positively affect user fit [8]. Porter (2011) found through research that corporate image and brand reputation can significantly promote user fit [9]. Wang Gaoshan (2014) found in their research on the antecedents of user engagement in the field of electronic services that user engagement can further enhance user participation [10]. It can be seen that, from the individual perspective, relevant literature points out that user participation, user satisfaction and the perceived value brought by user experience are the main factors affecting the individual level of users. From the group perspective, group popularity, group reputation, group image, etc. are all important factors that affect user fit.

3. Research Model

The occupation type is an important part of the identity attribute, which is a major symbol of the independence of the little red scholar. In the process of information output and reading of Little Red Book Notes, it can be effectively transmitted and perceived among people. When users have identity feelings about the identity attribute of the professional type of the Little Red Booker, they will transfer identity feelings through customer engagement. Users can also effectively express and show the actor's attitude towards identity when implementing customer engagements such as liking notes. Therefore, the hypothesis is proposed.

H1: Professional type identification has a positive impact on customer engagement.

Shopping style is an important part of identity attribute, and it is another distinctive sign which makes the Little Red Booker different from others. Little Red Booker with unique shopping method will have different output in their notes. Users will get different attributes of shopping methods

through reading information. Common shopping methods include high-end shopping, word of mouth shopping, frugal shopping, scientific shopping, experiential shopping, etc. Users will have different degrees of identity based on the matching degree of different shopping methods with their own shopping methods, and the matching degree with the ideal shopping methods, Identity emotion is expressed through customer engagement. Therefore, the hypothesis is proposed.

H2: Identification of shopping methods has a positive impact on customer engagement.

Shopping methods have a positive impact on the usefulness of online reviews. The shopping methods of Little Red Booker are highly recognized by users. For example, the shopping methods of Little Red Booker are highly unified with users, or their shopping methods are regarded as ideal shopping methods by users. At this time, the user has a strong sense of presence for the little red book notes, which helps to improve the sense of usefulness for the little red book notes and trust in the little red book experts. However, due to the limitation of the function of the Little Red Book system, the text released by Little Red Book notes does not exceed 1000 words, the number of pictures does not exceed 9, and the video duration does not exceed 5 minutes. Little Red Book experts can only briefly describe the content of the notes and some of their brand information. When users want to get more information, they need to initiate online interaction with trusted Little Red Book experts to exchange information related to Little Red Book notes. In addition, online interaction often has a strong purpose, which can effectively promote users to generate customer engagement on Little Red Book notes. Accordingly, the following assumptions are made:

H3: Perceived value plays a mediating role between shopping style identity and customer engagement.

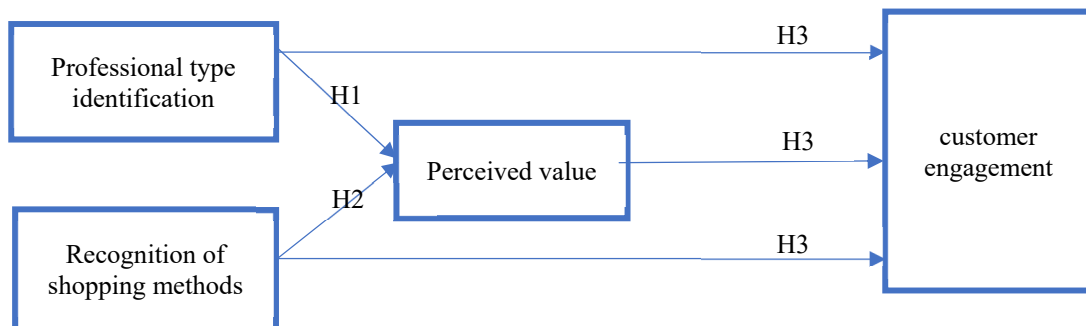


Figure 1. Research model about the impact of identity on customer engagement

4. Data Analysis

Hierarchical regression analysis was used to verify the impact of professional type identity and shopping style identity on customer engagement. In the first level model, gender, level, image count and fans are used as control variables for analysis (Model 1-1). In the second level model, the occupation type and shopping style of comments are included in the regression model as independent variables respectively (Models 1-2, 1-3), and the customer engagement (likes) is included in the regression model as dependent variables. The specific regression model and results are shown in Table 1. It can be seen from the test results that the F value of each model is significant, which has passed the significance test. At the same time, $VIF < 2$. It indicates that

there is no serious multicollinearity problem among the variables, and the regression of the model is good.

From model 1-1, it shows that the influence of control variables on customer engagement. In the table, we can see that gender, talent level, number of pictures, and number of fans have a relatively significant impact on customer engagement. Comparing Model 1-1 and Model 1-2, we can see that the addition of variable occupational types has significantly improved the explanatory ability of the model. The correlation regression coefficient of model 1-2 shows that professional type identification can significantly and positively affect customer engagement. Hypothesis H1 has been verified. Comparing Model 1-1 and Model 1-3, we can see that the introduction of variable shopping methods has significantly improved the explanatory power of the model.

The correlation coefficient of model 1-3 shows that shopping style identity can significantly improve customer engagement,

and hypothesis H2 has been verified.

Table 1. Regression analysis results of occupational type identity and shopping style identity on customer engagement

variable	customer engagement		
	modell-1	modell-2	modell-3
gender	0.048	0.071	0.053
image_count	0.038***	0.037***	0.040***
Level	-1.117***	-1.26***	-0.118***
Fans2	0.703***	0.657***	0.699***
profession		0.460***	
shoping			0.174***
R2	0.309	0.319	0.316
Adj. R ²	0.309	0.319	0.316
ΔR ²	0.309***	0.010***	0.007***
F	1024.659***	857.835***	824.422***

Note: * * * represents a significant level of 0.01 ** Represents a significant level of 0.05 * Indicates the significance level of 0.1.

In the robustness analysis of intermediary effects, the Bootstrap method recommended by Wen Zhonglin and Ye Baojuan [11] is used to calculate coefficient product ab and select its confidence interval. The intermediate effect is tested according to whether the indirect effect includes 0 in the 95% confidence interval. When the confidence interval does not include 0, the effect is significant. When the confidence interval includes 0, the effect is not significant. It can be seen from the results in Table 2 that the direct effect range of occupation type on customer engagement is [0.2787,0.4260], excluding 0, which indicates that the direct effect of occupation type on customer engagement is significant. The indirect effect range of occupation type on customer engagement is [0.0813,0.1350], excluding 0, which indicates

that the indirect effect is significant. It can be seen that perceived value plays a part of intermediary role in the relationship between occupation type and customer engagement, hypothesis H3 is verified again. The direct effect range of shopping style on customer engagement is [0.0018,0.1586], excluding 0, indicating that the direct effect of shopping style on customer engagement is significant. The indirect effect range of shopping style on customer engagement is [0.0618, 0.1269], excluding 0, indicating that the indirect effect is significant. It can be seen from this that perceived value plays a part of the intermediary role in the relationship between shopping style and customer engagement, which once again verifies hypothesis H3.

Table 2. Analysis Results of Different Paths of the Mediation Effect of Perceived Value

Mediation effect path	Effector	Mismarking	95% CI lower limit	95% CI upper limit
Total effect: profession→likes	0.4603	0.0401	0.3818	0.5389
Direct effect: profession→likes	0.3524	0.0376	0.2787	0.4260
Indirect effect: profession→sum_reply→likes	0.1080	0.0138	0.0813	0.1350
Total effect: shopping→likes	0.1740	0.0428	0.0901	0.2579
Direct effect: shopping→likes	0.0802	0.0400	0.0018	0.1586
Indirect effect: shoping→sum_reply→likes	0.0938	0.0165	0.0618	0.1269

5. Inspiration Suggestions

The empirical results show that perceived value plays a part of intermediary role. Professional type identity and shopping style identity can directly and positively affect customer engagement respectively. This shows that the small red book notes released by the small red book experts who are highly related to the profession and sensitive to the product functions can improve the perceived value by reading information. Therefore, the author thinks that if the little red book experts want to improve the operation effect of their accounts, they should pay attention to the following points: (1) The little red book experts should actively display their career types on their home pages and pass the professional type certification of the official platform. (2) Increase the proportion of information output such as people, products and events related to the professional field in Little Red Book Notes. (3) The refined classification of Little Red Book Notes reflects its professional level and empirical richness. (4) Constantly

improve the consistency of Little Red Book account shopping methods with the user's shopping methods and habits, and the public's preference for shopping methods can be firmly grasped. (5) Analyze the value orientation of users on product functions from multiple perspectives, and expand the output mode and perspective of functional content in Little Red Book Notes.

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