

Did you press the shopping button when you were emotional? Research on the influence mechanism of root appeal on consumers' purchase intention in the context of e-commerce live broadcast

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Abstract. To analyze the impact of root appeal on consumers' purchase intention in the context of e-commerce live broadcast, a conceptual model affecting consumers' purchase behavior in the context of e-commerce live broadcast is constructed based on emotional resonance theory and clue utilization theory, with emotional resonance and identity as the intermediary and brand awareness and interactivity as moderating variables. To test the relevant hypotheses put forward by the model, the e-commerce live Suzhou embroidery situation was set, and 370 questionnaires of Chinese consumers watching live Suzhou embroidery were collected. The results show that root appeal has a significant positive impact on emotional resonance and identity; Emotional resonance and identity have a significant positive impact on purchase intention; Brand awareness plays a moderating role in the relationship between root appeal and emotional resonance and identity.

Keywords: e-commerce live broadcast; root appeal; emotional resonance; identity; cues utilization theory.

1. Introduction

E-commerce live broadcast uses webcast technology to display products to consumers, transmit product information, and interact with consumers in real-time to promote consumers to make purchase decisions [1]. Compared with traditional e-commerce, e-commerce live broadcasting pays more attention to multi-agent real-time interaction [2], providing consumers with complex product clue information [3]. From the way consumers judge product quality, product clue information is divided into internal clues and external clues [4]. Internal clues refer to clues related to the product itself and can directly reflect the product quality, such as product packaging, price, specification, size, color, etc. External clues refer to the information that consumers cannot judge the product quality through their senses, but can infer the product quality through brand awareness, brand history and culture, origin, traditional skills, and other information [5], in which history and culture, origin and traditional skills belong to the root information of the product [6]. At present, the research on root appeal focuses on the perspective of product authenticity to analyze the impact of root appeal on consumers' purchase intention [7]. Based on the e-commerce live broadcast situation, it is a lack of analysis on the internal mechanism of the impact of root appeal on consumers' purchase intention from the perspective of consumers' emotional factors and product information identity, so it isn't provide more valuable theoretical guidance for e-commerce live broadcast enterprises.

To open the "black box" of the influence mechanism of root appeal on consumers' purchase intention, three questions are mainly discussed: (1) how does root appeal affect consumers' emotional resonance, identity, and purchase intention? (2) Does brand awareness regulate the relationship between emotional resonance and identity? (3) Does interactivity have a moderating effect on purchase intention? To solve the problems raised, this study makes an in-depth study on the impact mechanism of root appeal on consumers' purchase intention in the context of e-commerce live broadcast. Based on clue utilization theory and emotional resonance theory, this study analyzes and verifies that the root appeal will arouse consumers' inner emotional resonance and identity, to affect consumers' purchase intention. At the same time, it also explores the impact

of brand awareness and interactivity in the context of e-commerce live broadcasts as regulatory variables on consumers' purchase intention.

2. Theoretical basis and research assumptions

2.1 Clue utilization theory

According to the clue utilization theory, product information clues are divided into two categories: internal clues and external clues[4]. In the online shopping scenario, consumers can easily obtain external and internal clues. The shopping situation clues[8], product price[9], product origin [10], online comments[11], store reputation[12] and brand awareness of the website belong to external clues, and the product color and parameter introduction belong to internal clues. According to these different clues, consumers make corresponding purchase decisions[13].

The existing research on product external clues in the context of e-commerce live broadcast focuses on two points: the information clues of the anchor individual and the environmental atmosphere clues of e-commerce live broadcast, but ignores the important external clues of product root information. Root information mainly includes information clues such as product origin, traditional skills, and cultural inheritance, which is helpful for consumers to judge product quality [14]. From the perspective of clue utilization theory, it is necessary to study whether and how the anchor's root information and product brand awareness as external clues will affect consumers' purchase intention.

2.2 Influence of root appeal on emotional resonance

Resonance is the stimulation of product information feeling, passion and desire [15], and it is the emotional expression of consumers. The premise of emotional resonance is imagination and memory, that is, the human brain takes the things that have been perceived or experienced as materials to produce an emotional connection to products through processing and analysis [16]. The origin, traditional technology, cultural heritage and other root information of products in the root appeal reflect a kind of nostalgia or feelings of home and country. Rich emotional elements of products can directly arouse consumers to produce internal cognitive and emotional reactions, to make consumers produce emotional resonance. Therefore, the following assumptions are made:

H1: In the context of e-commerce live broadcast, the root appeal has a significant positive impact on consumers' emotional resonance.

2.3 Influence of Root Appeal on Identity

From the perspective of social identity theory, when consumers think that the external information is related to the information consistent with their own identity, they will identify the event as if it happened to themselves[17], resulting in the process of self-classification[18]. When consumers think that the root information transmitted by enterprises is related to their cognition, they will obtain a sense of identity from the origin and cultural value of products[3]. Therefore, publicizing products with the origin, traditional culture and other root information can improve consumers' recognition of product information clues [19], so as to improve consumers' sense of identity. In the context of e-commerce live broadcasting, when the anchor uses the way of root appeal to spread the root information such as product origin, history and culture and traditional skills, it will improve consumers' understanding of product cultural inheritance and root causes, and increase their recognition of product root information, to make consumers have a sense of identity and stimulate potential purchase intention. Therefore, the following assumptions are made:

H2: In the context of e-commerce live broadcast, the root appeal has a significant positive impact on consumers' identity.

2.4 Influence of emotional resonance on purchase intention

Emotional factors are important factors affecting consumer behavior[20]. Consumers who have feelings for the product are more likely to buy the product . When consumers perceive a high level of resonance, they will make a positive purchase response, share product information with others, and improve the purchase intention of other consumers . Therefore, emotional resonance will affect consumers' participation behavior to affect their purchase intention . In the context of e-commerce live broadcasting, when the anchor disseminates the product root information, consumers' understanding of the root information will arouse the emotional connection to the product due to experience or cognition, and stimulate their inner resonance with the live broadcasting product. The intensity of resonance directly affects consumers' willingness to buy the product. It is considered that the higher the degree of emotional resonance, the stronger consumers' purchase intention. Therefore, the following assumptions are made:

H3: In the context of e-commerce live broadcast, emotional resonance has a significant positive impact on consumers' purchase intention.

2.5 the impact of identity on purchase intention

In the process of product purchase decision-making, consumers need to deeply understand and process the external information of the product, try to connect the external information of the product with their own knowledge, and obtain a sense of identity from the product information, so as to promote them to make a correct purchase decision [21]. Consumers' identification with products is an important prerequisite for positive purchase behavior . In the context of e-commerce live broadcasting, the characteristics of anchor information sources can arouse consumers' sense of identity, so as to enhance consumers' willingness to buy live broadcasting products [18]. When consumers watch the live broadcast of e-commerce, the anchor will enhance the psychological connection between consumers and live broadcast products by deepening consumers' understanding of the product root information, promote consumers' sense of product identity, and then affect their purchase intention. The more the anchor's root information can make consumers have a sense of identity, the more it will help consumers have a willingness to buy live broadcast products. Therefore, the following assumptions are made:

H4: In the context of e-commerce live broadcast, identity has a significant positive impact on consumers' purchase intention.

2.6 Adjustment of brand awareness

Brand awareness refers to the intensity and range of brands identified and recalled by consumers in different shopping situations, which is related to the completeness of consumers' brand knowledge[22]. For high-profile brands, consumers know more about the external information of products, and relatively have the basis for generating emotion. Brand awareness positively regulates consumers' inner emotion[23]. Therefore, in the context of e-commerce live broadcasting, the anchor disseminates the root information of products with high-profile brands, which can better recall consumers' past memory, cause emotional changes in consumers' hearts, and stimulate consumers' emotional resonance.

For low-profile brands, when consumers have relatively little understanding of product production technology, quality and other information, it is difficult for consumers to connect product information with their own cognition , unable to produce a process of self-classification, and it is less likely to produce a sense of identity. On the contrary, for high-profile brands, consumers know more about product information, and it is more likely that the external clue information of the product can arouse consumers' cognitive response , which is easier to have a sense of identity with the product. Therefore, the following assumptions are made:

H5: In the context of e-commerce live broadcasting, brand awareness positively regulates the relationship between root appeal and emotional resonance. When the brand awareness is higher, the root appeal has a greater impact on emotional resonance.

H6: In the context of e-commerce live broadcast, brand awareness positively regulates the relationship between root appeal and sense of identity. When the brand awareness is higher, the root appeal has a greater impact on the sense of identity.

2.7 Regulatory role of interactivity

Group interaction is the main feature that distinguishes e-commerce live broadcasting from traditional e-commerce. In the context of e-commerce live broadcasting, interaction plays a vital role between anchors and consumers[23]. The anchor can answer the specific questions raised by consumers in real-time and quickly solve the problems that consumers may face in purchase decision-making. Analyzing the influence of interactivity from the perspective of consumers' psychological changes, it is found that the higher the interactivity is, the more emotional factors of consumers can be stimulated, and high interactivity can strengthen the emotional communication between anchor and consumers[24]. Therefore, the following assumptions are made:

H7: In the context of e-commerce live broadcast, interactivity regulates the relationship between emotional resonance and purchase intention. The stronger the interactivity, the greater the impact of emotional resonance on purchase intention.

H8: In the context of e-commerce live broadcast, interactivity regulates the relationship between identity and purchase intention. The stronger the interactivity, the greater the impact of identity on purchase intention.

3. Research design and data collection

3.1 Selection of research objects

Consumers' root demands for Suzhou embroidery were selected as the research object of this experiment. First, Suzhou embroidery belongs to intangible cultural heritage products, with a long history and culture and mature embroidery technology, which has a history of 2500 years; Second, Zhenhu embroidery, the representative of Suzhou embroidery, is a national geographical indication product. Its root information such as origin, cultural inheritance and traditional skills is relatively clear, which is conducive to enterprises to make full use of root appeal for dissemination. Therefore, choosing Suzhou embroidery for research is in line with the scenario setting of this study.

3.2 Questionnaire design

The questionnaire is mainly composed of three parts. The first part is whether you have watched the live broadcast, which is the item for screening survey users; The second part is the measurement scale of constructs in the conceptual model; The third part is personal basic information, mainly including gender, age, education level and so on. To ensure the validity of the questionnaire, each construct measurement scale refers to the maturity scale. Among them, Root appeal's scale refers to Morhart (2015)[6], Emotional resonance's scale refers to Escalas and Stern (2003)[25], Identity's scale refers to Nambisan (2002)[26], Brand awareness refers to Yoo et al. (2000)[27], Purchase Intention's scale refers to Doods (1991)[28]. Referring to previous studies, the items were measured with a Likert 7-point scale (1 indicates very dissatisfied / agreed; 7 indicates very satisfied / agreed).

3.3 Data collection

This study used the experimental method to collect data. At the end of the live broadcast, there were 546 viewers and a total of 370 questionnaires were recovered. After excluding the invalid questionnaires with different data, the final effective questionnaires were 341, and the effective recovery rate was 91.2%. As shown in Table 3, female viewers accounted for 59.24% and male viewers accounted for 40.76%; The age is mainly 18-25 years old, accounting for 60.12%; The education level is mainly undergraduate and graduate students, accounting for 76.83%; The occupations are mainly company staff and students, accounting for 25.81% and 22.87%

respectively; The monthly household income is mainly 5001-8000 yuan and 8001-12500 yuan, accounting for 23.17% and 24.63% respectively; The frequency of shopping in the live broadcasting platform is 1-3 times per month, accounting for 55.72%.

4. Data analysis

4.1 Reliability and validity analysis

Before the structural analysis of the data, to ensure the reliability and validity of the data, SPSS22.0 is mainly used to test the reliability between the data. From the overall reliability of the questionnaire, the whole questionnaire has 23 items Cronbach's α The value is 0.905, which indicates that the consistency of this questionnaire is high. The KMO value of each measured variable is greater than 0.7, indicating that the variable is suitable for factor analysis. Using AMOS23.0 Confirmatory factor analysis and discriminant validity were used to test the validity of the data. The combined reliability of all variables exceeded the threshold value of 0.6, and the load value of all standardized factors exceeded 0.7. At the same time, it was significant at the level of $P < 0.001$. The average extraction variance of all variables was greater than 0.5, meeting the requirements of convergence validity.

4.2 Structural path inspection results

AMOS23.0 constructs the structural equation model for the conceptual model. Before the hypothesis test in the model, the goodness of fit index $GFI = 0.944$, adjusted goodness of fit index $AGFI = 0.916$, normative fit index $NFI = 0.942$, nonnormal fit index $TLI = 0.960$, comparative fit index $CFI = 0.969$, root mean square of approximation error $RMSEA = 0.057$ and other indicators show that the fitting degree of the research model is good[28].

Further test the model hypothesis, mainly based on the standardized path coefficients in the model[30], root appeal has a significant impact on emotional resonance ($\beta = 0.513, P < 0.001$), root appeal had a significant effect on identity ($\beta = 0.395, P < 0.001$). Emotional resonance has a significant impact on purchase intention ($\beta = 0.382, P < 0.001$), and identity has a significant impact on purchase intention ($\beta = 0.300, p < 0.001$). Therefore, H1, H2, H3, and H4 are verified.

4.3 Analysis of mediating effect

This study mainly refers to the research of Hayes (2013) [33] and the bootstrapping method proposed by Edward (2007) to test the intermediary effect. The test results are mainly judged by the bootstrap confidence interval. If the bootstrap confidence interval contains 0, there are indirect effects, direct effects and total effects. This study mainly adopts amos23 The bootstrap method in 0 runs 5000 times, the indirect effect value of root appeal-emotional resonance-purchase intention is 0.196, which does not include 0 in the upper and lower value ranges of deviation correction value and 95% CI of the level value of percentile, indicating the existence of indirect effect; The indirect effect value of root appeal-identity-purchase intention is 0.151, which does not include 0 in the upper and lower value ranges of deviation correction value and 95% CI of percentile level value, indicating the existence of indirect effect. And the indirect effect value of root appeal-emotional resonance-purchase intention path is greater than that of root appeal-identity -purchase intention, indicating that the contribution of emotional resonance intermediary effect is greater than that of identity.

4.4 Analysis of moderating effect

4.4.1 Brand awareness moderating effect test

Taking root appeal as independent variables, brand awareness as regulatory variables and emotional resonance as dependent variables, the regulatory effect was tested and analyzed. There is a significant positive correlation between root appeal and emotional resonance ($\beta = 0.381, P < 0.001$),

verify hypothesis H1 again. The standardized regression coefficients of root appeal and brand awareness on emotional resonance are 0.249 and 0.277, and the corresponding significance level is less than 0.001, indicating that root appeal and brand awareness have a significant impact on emotional resonance. The interaction between root appeal and brand awareness has an impact on emotional resonance ($\beta = 0.178$, $P < 0.01$) has a significant positive impact, indicating that brand awareness has a significant positive regulatory effect on emotional resonance in the root appeal, so H5 is established.

Taking root appeal as independent variables, brand awareness as regulatory variables and identity as dependent variables, the regulatory effect was tested and analyzed. Root appeal has a significant positive impact on identity ($\beta = 0.316$, $P < 0.001$), and the hypothesis H2 was verified again. The regression coefficients of root appeal and brand awareness on identity are 0.187 and 0.272 respectively, and the significance level is less than 0.001, indicating that root appeal and brand awareness have a significant impact on identity. The interaction between root appeal and brand awareness has a significant impact on the sense of identity ($\beta = 0.167$, $P < 0.05$), indicating that brand awareness has a significant positive regulatory effect on identity in the root appeal, so H6 is established.

4.4.2 Interactive regulatory effect test

Taking emotional resonance as independent variables, interactivity as regulatory variables and purchase intention as dependent variables, the regulatory effect was tested and analyzed. There is a significant positive relationship between emotional resonance and purchase intention ($\beta = 0.376$, $P < 0.001$), and the hypothesis H3 was verified again. The regression coefficients of emotional resonance and interaction on purchase intention are 0.345 and 0.176, and the significance level is less than 0.001, indicating that emotional resonance and interaction have a significant impact on purchase intention. The interaction items of emotional resonance and interaction have a significant impact on purchase intention ($\beta = 0.208$, $P < 0.001$), indicating that interactivity has a significant positive regulatory effect on purchase intention in emotional resonance, so H7 is established.

Taking identity as independent variables, interactivity as regulatory variables and purchase intention as dependent variables, the regulatory effect was tested and analyzed. There is a significant positive relationship between identity and purchase intention ($\beta = 0.359$, $P < 0.001$), verify hypothesis H4 again. The regression coefficients of identity and interactivity on purchase intention are 0.325 and 0.172, and the significance level is less than 0.001, indicating that identity and interactivity have a significant impact on purchase intention. The interaction between identity and interactivity has an impact on purchase intention ($\beta = 0.170$, $P < 0.01$), indicating that interactivity has a significant positive regulatory effect on purchase intention in identity, so H8 is established.

5. Summary

Based on the theory of emotional resonance and the theory of clue utilization, this study takes the intangible cultural heritage product Su Xiu as a case study to explore the influence mechanism of root appeal on consumers' purchase intention under the scenario of e-commerce live broadcast. By constructing a structural equation model, it is verified that the root vein appeal can play a positive and significant role in consumers' purchase intention through two paths: emotional resonance and identity. Emotional resonance and identity have multiple mediating roles between root appeal and purchase intention, and the indirect effect of root pulse appeal through emotional resonance is greater than that of identity. At the same time, the moderating effect of brand awareness and interactivity is also examined, and brand awareness, as a regulating variable, positively regulates the role of root appeal on emotional resonance and identity, and there is a moderated mediating effect. That is, the higher the brand awareness, the greater the impact of root appeal on emotional resonance and identity, and the impact on emotional resonance is greater than the impact of identity. Interactivity positively regulates the influence of root vein appeal on emotional resonance and sense of identity, and there is a moderated mediating effect, and strengthens the mediating effect of

emotional resonance and identity between root vein appeal and purchase intention. It shows that brand awareness and identity have a significant mediating effect on emotional resonance and identity between root appeal and purchase intention. That is, the higher the interaction between anchors and consumers, consumers and consumers, the greater the impact of root appeal on emotional resonance and identity, and the moderating effect on emotional resonance is greater than that of identity.

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