Analysis of Influencing Factors of Crowdfunding Performance of Traditional Handicraft

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Abstract. The rise of crowdfunding websites have added new sales channels to traditional handicraft, how to achieve the success of crowdfunding is the concern of many promoters. This article selects JD.com crowdfunding data for analysis and discusses the influencing factors of crowdfunding success from the three dimensions of cultural experience, environmental experience and functional experience, and constructs a structural equation model. The results show that functional experience and environmental experience directly affect crowdfunding performance, and cultural experience indirectly affects crowdfunding performance through functional experience, functional experience is the most concerned factor for crowdfunding investors, traditional handicrafts should focus on creating strong functional experience and high-quality environmental experience.

1. Introduction

In October 2017, General Secretary Xi proposed the implementation of the rural revitalization strategy in the report of the 19th National Congress of the Communist Party of China, to support and encourage farmers to find employment and entrepreneurship, and to broaden the channels for increasing income. Traditional crafts will be a breakthrough to promote rural economic development, employment of villagers, and inheritance of folk culture. With the rapid development of network technology, concepts such as "Internet+agriculture, rural areas and rural residents", rural e-commerce, and e-commerce targeted poverty alleviation have emerged. Rural e-commerce markets characteristic products and services in rural areas through the Internet, which plays an important role in promoting rural revitalization. However, compared to other agricultural products that can be produced and sold in batches, traditional handicrafts have problems such as greater difficulty in production, longer production cycles, and relatively small demand markets. Online crowdfunding provides new financing, production and sales channels for traditional handicraft products.

Crowdfunding is a form of financing that is publicly convened, primarily via the Internet, to support a project sponsor for a specific purpose, either by donating money gratis or in exchange for some form of return. Kickstarter is the most well-known product crowdfunding website in the world, with more than 170,000 projects successfully raised by the end of 2019. In 2015, the State Council’s Guiding Opinions on Accelerating the Construction of a Supporting Platform for Mass Entrepreneurship and Innovation pointed out that based on the Internet and other methods, steadily develop crowdfunding, expand entrepreneurship and innovation financing, and encourage physical crowdfunding. Under the guidance and regulation of the policy, there are now a large number of crowdfunding platforms such as start bar, JD.com crowdfunding, Taobao crowdfunding, etc. Crowdfunding is a low-cost source of financing that enables producers to produce according to market demand, thereby reducing sales risk. Internet crowdfunding platforms can often raise corresponding funds in a relatively short time through the social network dissemination. [1] Generally speaking, the information presented by the promoter on the crowdfunding platform includes the goal to raise funds, the duration, the level of return, and the detailed graphic introduction of the product. If the amount raised by the project exceeds the target amount, the project will be regarded as successful, and investors will get corresponding returns; if the crowdfunding fails, the investor's amount will be returned to through original way.
Numerous studies have explored the factors that influence the success of crowdfunding. Yuan Duan[2] found that the facial credibility of entrepreneurs is positively correlated with the success of crowdfunding activities, and that the facial credibility of female entrepreneurs is more important than male entrepreneurs in determining the success of the project. C. Borrero-Domínguez[3] believe that the experience of project members will increase the credibility of crowdfunding projects, thus increasing the success rate, geographic information is also an important factor in the success of crowdfunding. Nianxin Wang[4] found that the number of comments, ratings, response length, and response speed are positively related to the success of fundraising, and stressed the importance of interaction between sponsors and investors in the crowdfunding process. Wei Wang[5] investigated how the focus of the crowdfunding text narrative affects the results of fundraising, and found that the title and introduction should emphasize the situation of the initiator, while the detailed description should highlight the creativity. Honischa[6] emphasized the role of professional video promotion in crowdfunding based on the content of the crowdfunding platform and interviews. Xiaohua Chen[7] found that the number of project updates, the number of free support, the number of sponsor fans, the number of pictures, and the number of return levels in the research on cultural and creative crowdfunding projects are significant and positively affect the successful financing of crowdfunding projects, the target amount of financing significantly and negatively affect the success rate of crowdfunding.

Through the reading of the existing literature, we find that there are still some deficiencies in the study of handicraft crowdfunding. First, the current research is based on success or failure to study the effectiveness of crowdfunding, and there is no accurate measurement of the continuous variable of crowdfunding amount. Second, most of the current research focuses on the form of the text, and few can really study the attributes of the product itself. Third, there is very little research on the crowdfunding effect of traditional handicrafts. The purpose of this paper is to discuss the influencing factors of crowdfunding by analyzing the description of traditional handicrafts in the crowdfunding text.

2. Literature Review and Research Hypotheses

2.1. The Link Between Traditional Handicraft Crowdfunding Performance and Cultural Experience

Handicraft is an important part of people's social life under the background of traditional farming culture, and it carries the economic and cultural demands that people depend on for a living[8], culture serves design, but also dominates design[9]. Traditional handicrafts are based on Chinese traditional culture, and often contain rich historical and cultural connotations behind them, which are the visual expression[10] of people's spiritual world. Handicrafts exist in the daily use of local people for food, clothing, housing and transportation, and express people's aesthetic emotions, creative wisdom and ethical thoughts. Most of the craftsman or craftsman teams of traditional handicrafts are heirs of intangible cultural heritage, mastering authentic craftsmanship and processes.

Traditional handicrafts are made by hand or to a lesser extent with the help of equipment, with many and complicated processes and low output, especially after the large-scale production of machines in modern society has been severely impacted, and many handicrafts are at risk of disappearing. Therefore, their efforts to protect and inherit traditional culture are often highlighted in the project introductions, and the inherent spirit, behavioral norms, action language, and symbolic characteristics[11] of traditional culture are conveyed through handicrafts, this is also the cultural spirit contained in the products that consumers value[12]. By arousing the emotional resonance of consumers, and then promoting consumers to invest, such consumption may become a consumption orientation that indicates one's cultural identity.

H1. The cultural experience of handicrafts is positively related to crowdfunding performance.
2.2. The Link Between Traditional Handicraft Crowdfunding Performance and Functional Experience

Qian Ji\cite{13} found in the survey of cultural and creative products that most buyers hope to buy products that have both practical functions and commemorative value. Handicrafts were originally created to meet people’s needs, when people buy products, the most superficial perception is to observe the attributes of the products and judge whether to purchase them based on their form, color, function and so on. Kevin E. Voss\cite{14} believes that hedonism and utilitarian construction are two different dimensions of product attributes. Zhanbo Zhao\cite{15} found the obvious two-dimensional structure phenomenon in the product attribute measurement through the empirical research, and proposed that manufacturers should pay close attention to the functional attributes and enjoyment attributes of products. The functional attributes of the product correspond to the experience of the functional characteristics, and the hedonic attributes of the product can be expressed not only as the sensory characteristic experience of the product, but also as the deep consumer emotional experience\cite{16}, in other words, the functional attribute emphasizes the practical value brought by the product, and the hedonic attribute emphasizes the joy, excitement and visual satisfaction brought by the product. If the functional experience can move consumers to buy, crowdfunding performance is good.

H2. The functional experience of handicrafts is positively related to crowdfunding performance

2.3. The Link Between Traditional Handicraft Crowdfunding Performance and Environmental Perception

Due to its rich geography, China has handicrafts with strong local colors in various places. When we see a certain handicraft, we may trace it back to its place of origin, for example, porcelain from Jingdezhen, purple clay pots from Yixing, Four Treasures of the Study from Anhui. These handicrafts either originated here or became famous here, and have had their own attributes of origin in the long-term development process, this overall recognition of products from a specific region is called the image of origin. Yuntang Zhang\cite{17} used empirical methods to reveal the influence path of the image of the origin of agricultural products on the branding of agricultural products e-commerce, and concluded that the spread of the image of the origin should be increased. Liya Zhu\cite{18} confirmed that the image of Ningxia's origin significantly affects consumers’ attitudes and evaluations of Ningxia’s wine brands. In the expression of crowdfunding projects, we can often see that the promoters particularly emphasize the authenticity of their origin in order to attract consumers. With increased environmental awareness, consumers are more willing to buy environmentally friendly products, and even more willing to pay higher prices for environmentally friendly products\cite{19}, therefore, some project promoters will demonstrate that the selection of raw materials and the production process are eco-friendly and sustainable, and guide consumers to increase purchase intentions and improve crowdfunding performance through the description of product origin attributes and environmentally friendly descriptions.

H3. The environmental perception of handicrafts is positively related to the effect of crowdfunding.

3. Research Design and Data Collection

This research selects sample data about traditional handicrafts from JD.com crowdfunding, and analyzes the text of the selected crowdfunding projects to try to find out the factors that affect the performance of handicrafts crowdfunding, put forward research hypotheses, build research models and demonstrate. A total of 633 sample data were found by searching keywords such as "handicrafts", "manual", and "inheritance", among which 492 were successful and 157 were failed. Save all the information displayed on the web page of each handicraft crowdfunding project with long screenshots, and download the videos contained in some projects, and fully collect the detailed information of each crowdfunding project, including title, text description, pictures, target amount,
actual amount, number of participants, crowdfunding return and other information. In order to ensure the timeliness and rationality of crowdfunding projects, this study selects handicraft product crowdfunding projects from January 1, 2018 to November 30, 2019, meanwhile, eliminate projects with incomplete information, repeated launches, and crowdfunding amounts that are too large and too small, 187 crowdfunding projects finalized.

Reference from the authenticity of time-honored brands\textsuperscript{[20]}, product design\textsuperscript{[21]}, brand\textsuperscript{[22]}, consumer experience\textsuperscript{[23]} and other aspects of the scale, invite three teachers of marketing and consumer psychology to initially draw up 21 scales based on the actual situation of this article, forming 21 question sentences, and the language is easy to understand. Three graduate students with rich experience in online shopping were invited to form a scoring team, they receive intensive training from three teachers, and deeply understand the meaning of each scale, according to Likert's seven scale ranges from 1 to 7 points corresponding to strong disagree to strong agree, each graduate student independently reads the information of each crowdfunding project and gives a score.

In order to ensure that students can give scores objectively and impartially, the information on whether each crowdfunding project is successful or not is hidden to avoid over-scoring due to project success and under-scoring due to project failure. Randomly select 30 crowdfunding texts for the first round of pre-scoring, and then the scoring team will discuss the problems in the first round of pre-scoring with the three teachers, eliminating the vague meaning, similar meaning and not suitable for text scoring, finally, 12 scales were determined. Organize a scoring team to score 187 crowdfunding texts one by one and get the data, sort out and filter the data and import SPSS25.0 statistical software for the next step of analysis.

4. Statistics and Analysis
4.1. Reliability Test
Because this research uses the researcher scoring method, the following methods are used to test the reliability.
4.1.1. Inter-rater Reliability Test
We use the Kendall's coefficient of concordance to test the reliability of the scorer. According to the test results, 2 of the 12 variables failed the rater reliability test, and the significance of the remaining variables was less than 0.001, so 10 variables with rater consistency were determined.

4.1.2. Scale Reliability Test
Cronbach $\alpha$ Coefficient was used to test the reliability of the scale. In general, Cronbach $\alpha$ coefficient $\geq 0.7$ belongs to high reliability, $0.35 \leq$ Cronbach $\alpha$ coefficient $< 0.7$ belongs to medium reliability, and Cronbach $\alpha$ coefficient $< 0.35$ belongs to low reliability. From Table 1, the total reliability of 10 items in the questionnaire was tested by spss, and the Cronbach $\alpha$ is 0.791, and the Cronbach’$\alpha$ based on standardized items is 0.826, which is high reliability.

<table>
<thead>
<tr>
<th>Items</th>
<th>Cronbach’$\alpha$</th>
<th>Cronbach’$\alpha$ based on standardized items</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.791</td>
<td>0.826</td>
</tr>
</tbody>
</table>

4.2. Validity Test
Before exploratory factor analysis, a Bartlett sphere test is required. According to the results in Table 2, the KMO value is 0.803, the approximate chi-square value is 821.059, the degree of freedom is 45, and the p value is 0.000, reaching the significance standard. Therefore, this study is suitable for principal component verification with exploratory factors.
4.3. Factor Analysis

Exploratory factor analysis is carried out on the questionnaire data by the principal component analysis method in SPSS25.0, and the maximum variance method is used to rotate the axis, and the factors with characteristic values greater than 1 are extracted. Through the orthogonal rotation method, three main factors are rotated. For the overall questionnaire, the interpretation rate reaches 70.337%, as shown in the Table 3.

<table>
<thead>
<tr>
<th>element</th>
<th>Initial Eigenvalues</th>
<th>Sum of Squared Extraction Loads</th>
<th>Sum of squares of rotating loads</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>total</td>
<td>Variance %</td>
<td>Accumulation %</td>
</tr>
<tr>
<td>1</td>
<td>4.145</td>
<td>41.446</td>
<td>41.446</td>
</tr>
<tr>
<td>2</td>
<td>1.773</td>
<td>17.732</td>
<td>59.178</td>
</tr>
<tr>
<td>3</td>
<td>1.116</td>
<td>11.159</td>
<td>70.337</td>
</tr>
<tr>
<td>4</td>
<td>0.698</td>
<td>6.983</td>
<td>77.319</td>
</tr>
<tr>
<td>5</td>
<td>0.643</td>
<td>6.430</td>
<td>83.750</td>
</tr>
<tr>
<td>6</td>
<td>0.447</td>
<td>4.468</td>
<td>88.218</td>
</tr>
<tr>
<td>7</td>
<td>0.412</td>
<td>4.119</td>
<td>92.337</td>
</tr>
<tr>
<td>8</td>
<td>0.306</td>
<td>3.056</td>
<td>95.392</td>
</tr>
<tr>
<td>9</td>
<td>0.270</td>
<td>2.698</td>
<td>98.090</td>
</tr>
<tr>
<td>10</td>
<td>0.191</td>
<td>1.910</td>
<td>100.000</td>
</tr>
</tbody>
</table>

Extraction method: principal component analysis.

These three common factors are respectively summarized as "cultural experience", "functional experience" and "environmental experience". Use the maximum variance method to rotate, after 25 iterations, get the following component matrix after the axis of rotation, as shown in Table 4.

<table>
<thead>
<tr>
<th>element</th>
<th>Cultural Experience</th>
<th>Environmental Experience</th>
<th>Functional Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protect traditional culture</td>
<td>.892</td>
<td>.052</td>
<td>.098</td>
</tr>
<tr>
<td>Traditional craftsmanship</td>
<td>.862</td>
<td>.004</td>
<td>.036</td>
</tr>
<tr>
<td>Superb workmanship</td>
<td>.807</td>
<td>-.281</td>
<td>.199</td>
</tr>
<tr>
<td>Craftsman team</td>
<td>.736</td>
<td>.110</td>
<td>.319</td>
</tr>
<tr>
<td>Manual process</td>
<td>.657</td>
<td>.182</td>
<td>.132</td>
</tr>
<tr>
<td>Eco-friendly</td>
<td>.011</td>
<td>.872</td>
<td>.030</td>
</tr>
<tr>
<td>Geographical advantage</td>
<td>.086</td>
<td>.867</td>
<td>.138</td>
</tr>
<tr>
<td>Consumption satisfaction</td>
<td>.102</td>
<td>.236</td>
<td>.870</td>
</tr>
<tr>
<td>product appearance</td>
<td>.297</td>
<td>-.049</td>
<td>.829</td>
</tr>
<tr>
<td>superior quality</td>
<td>.323</td>
<td>.286</td>
<td>.526</td>
</tr>
</tbody>
</table>

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According to the component matrix after the rotation axis, it can be seen that the five observed variables of cultural experience are “protect traditional culture”, “traditional craftsmanship”, “superb workmanship”, “craftsman team” and “manual process”, and the corresponding loads are 0.892, 0.862, 0.807, 0.736 and 0.657. The two observed variables of environment experience are “Eco-friendly” and “Geographic advantage”, and the corresponding loads are 0.872 and 0.867. The three observed variables of functional experience are “consumption satisfaction”, “product appearance” and “superior quality”, the corresponding loads are 0.870, 0.829 and 0.526.

4.4. Model Construction and Analysis

4.4.1. Construction of Structural Equation Model

In the construction of the model, three variables with path coefficients less than 0.5 were deleted, and the final adjustment model was obtained. There are three latent variables in independent variables: cultural experience, environmental experience and functional experience. The latent variable cultural experience has three observed variables: “protect traditional culture”, “craftsman team” and “traditional craftsmanship”. The environmental experience has two observed variables: “geographical advantage” and “eco-friendly”, and the functional experience has two observed variables: “consumption satisfaction” and “superior quality”.

4.4.2. Confirmatory Factor Analysis of Structural Equation

After confirmatory factor analysis, it is found that the factor loadings of the seven observed variables are all greater than 0.5, and accord with the consistent factor loadings must be between 0.5-0.95, and the model fits well.

From Figure 1, the path coefficient between the second-level index and the third-level index, the value is between 0.54 and 0.94, and the path coefficient does not exceed 0.95, and the fitting indicators have passed the significance test, which proves that the structural equation has passed the “estimation violation” test.

4.4.3. Structural Equation Model Evaluation and Analysis

Three aspects of fitness index, substitution index, chi-square test and p-value analysis are selected to evaluate the model fit. The specific results are shown in the Table 5. From the comparison

Figure 1. Structural equation model.
between the analysis result and the evaluation standard, it can be seen that all indicators are within the standard range, indicating that the model is acceptable.

Table 5. Model fitting results.

<table>
<thead>
<tr>
<th>index classification</th>
<th>Fitting index</th>
<th>Evaluation Criterion</th>
<th>Analysis Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-square test and p-value</td>
<td>X2/DF</td>
<td>1~3</td>
<td>1.598</td>
</tr>
<tr>
<td>Fitness index</td>
<td>p</td>
<td>—</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>GFI</td>
<td>&gt;0.9</td>
<td>0.957</td>
</tr>
<tr>
<td></td>
<td>AGFI</td>
<td>&gt;0.9</td>
<td>0.919</td>
</tr>
<tr>
<td></td>
<td>PGFI</td>
<td>&gt;0.5</td>
<td>0.654</td>
</tr>
<tr>
<td></td>
<td>IFI</td>
<td>&gt;0.9</td>
<td>0.981</td>
</tr>
<tr>
<td>Substitution index</td>
<td>CFI</td>
<td>&gt;0.9</td>
<td>0.957</td>
</tr>
<tr>
<td></td>
<td>RMSEA</td>
<td>&lt;0.08</td>
<td>0.057</td>
</tr>
</tbody>
</table>

4.4.4. Explanation of Structural Equation Model

Functional experience factors directly affect crowdfunding performance. As can be seen from the above figure, the path coefficient of the functional experience factor is 0.54, among the three-level indicators, the path coefficient with superior quality is higher, which is 0.72, indicating that the investors pay more attention to the functional experience brought by the quality of the product.

Environmental experience factors directly affect crowdfunding performance. The path coefficient of environmental experience factors is 0.52, and in the three-level indicators, the path coefficient of geographical advantages and environmentally friendly factors are not much different, indicating that the advantages of production areas should be used to produce environmentally friendly products.

Cultural experience factors indirectly affect crowdfunding performance. In the model, cultural experience does not directly affect the final crowdfunding performance, but it affects the crowdfunding performance through functional experience. The path coefficient of cultural experience to functional experience is 0.47. In the three-level indicator of cultural experience, the path coefficient of protect traditional culture is the highest at 0.94, followed by traditional craftsmanship at 0.83, and finally the craftsman team at 0.66.

Through path analysis, we can come to the following conclusions: crowdfunding performance is directly related to user experience and environmental experience, however, we often think that rural handicrafts contain very rich cultural characteristics and do not have a direct impact on the performance of crowdfunding handicrafts, in other words, we often emphasize the pursuit of cultural experience, but the actual embodiment, it is also the demand for the most direct user experience of the product. In other words, we often emphasize the pursuit of cultural experience, but what actually reflects is people's demand for functional experience of handicrafts.

5. Conclusion

Crowdfunding performance is related to environmental experience, functional experience, and cultural experience, but only environmental experience and functional experience directly affect crowdfunding performance.

Traditional handicrafts are still a kind of product, whether the handicraft products are possessed through crowdfunding item or ordinary purchase, the functional experience is still the most concerned by consumers and crowdfunding investors. It is very reasonable for the investors expect to get a high-quality handicraft product with their investment for feedback. The quality of handicraft products is also a sign that the investors recognize the cultural heritage of the project, that is, the better the quality of the handicraft products, the more valuable the heritage of this craft can be explained, which also reflects the crowdfunding motivation of the crowdfunding creator.

Environmental experience is also an important factor affecting the performance of traditional
handicraft crowdfunding. Crowdfunders emphasize the location of this traditional handicraft project through crowdfunding description, and develop a sense of identity with some locations with geographical indications and long-standing craftsmanship, which will greatly promote the success rate of crowdfunding. At the same time, due to the increase in environmental protection awareness and the promotion of health awareness, crowdfunding investors pay more attention to the non-additive and safety factors in the handicraft products than ordinary consumers.

In theory, cultural experience should be the most important part of traditional handicraft projects, but in actual research, it is found that cultural experience does not directly affect the performance of crowdfunding projects, but affects crowdfunding performance through functional experience, this shows that cultural experience is produced by people’s understanding and viewing of traditional handicraft projects, but this experience itself cannot affect investors’ motivations. This may be because people’s understanding of culture is a spiritual pursuit, after all, traditional handicraft crowdfunding projects belong to the reward-type crowdfunding, the investors ultimately hope to obtain a good handicraft product. Therefore, people's cultural experience of handicraft projects can only affect crowdfunding performance through external functional experience.

Generally speaking, crowdfunding investment behavior is also a kind of consumption behavior, which pays more attention to the functional experience and the environment experience, and the cultural experience can only be a kind of spiritual pursuit attached to the functional experience. It can be said that investors' participation in traditional handicraft crowdfunding projects is not entirely out of the perspective of protecting and inheriting traditional culture, but is still from the perspective of purchasing goods. Therefore, cultural experience should not be the protagonist of the copywriting of traditional handicraft crowdfunding projects, but the strong functional experience and high-quality environmental experience should be the focus.

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References


