A Study on the Influence of Poverty Alleviation Label and Comment Quantity on Consumers' Purchase Intention

Yan Jinjiang\textsuperscript{1,a}, Bai Ling\textsuperscript{1,b}, Huang Lu\textsuperscript{1,c,*}, Zhou Liying\textsuperscript{1,d}, Wang Jingyou\textsuperscript{2,e}

\textsuperscript{1}Business School, Sichuan University, Wangjiang Road, Chengdu, China
\textsuperscript{2}School of Public Administration, Wangjiang Road, Chengdu, China
\textsuperscript{a} yanjj@scu.edu.cn, \textsuperscript{b} xiayufe11997@foxmail.com, \textsuperscript{c} hl.scu@163.com, \textsuperscript{d} 272653514 @163.com, \textsuperscript{e} wangjinyou@scu.edu.cn

*corresponding author

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Abstract. In recent years, China keeps pace with the Times to adjust the poverty alleviation ideas and establish the poverty alleviation model of e-commerce with the rapid development of the Internet and e-commerce. This study focuses on whether and how consumers are influenced by poverty alleviation information and product evaluation information when they make purchase decisions on poverty alleviation products under the poverty alleviation background of e-commerce. In order to study this problem, this paper use Uses and Gratification theory, emotion and functional and other theories, and adopts the method of 2×2 group comparison experiment. To explore the influence of large and small quantity of evaluation, poverty alleviation label and absence on consumers' purchase intention, and the mechanism of the influence. Through experiments, this paper finds that poverty alleviation label will significantly increase consumers' purchase intention, and this effect is mediated by the satisfaction degree of consumers' emotional appeals and functional appeals. At the same time, this study also found that the impact of poverty alleviation label on consumers' purchase intention depends on the quantity of goods evaluated.

1. Introduction

In recent years, the rapid development of Internet and e-commerce technology, China began to adjust the poverty alleviation strategy, focus on e-commerce poverty alleviation model. E-commerce poverty alleviation refers to the inclusion of e-commerce in poverty alleviation work, aiming at the poor people, improving the management performance of poverty alleviation and development, and innovating the mode of poverty alleviation and development. With the promotion of the government and the support of the society, e-commerce poverty alleviation has been developing continuously. Consumers have gradually recognized, accepted and participated in poverty alleviation products.

At present, many scholars have studied the mode of e-commerce poverty alleviation and the relationship between e-commerce and consumers. However, from the perspective of e-commerce poverty alleviation, few scholars have studied consumers' purchasing behaviors of poverty alleviation products.

In order to study consumers' e-commerce anti-poverty consumption behavior, this study will analyze on the basis of use and satisfaction theory, emotional and functional appeal theory. The main problem to be solved in this paper is whether the poverty alleviation label of e-commerce
products and the evaluation quantity factor will affect consumers' purchasing behavior. And, if so, how it works.

The structure of this paper is as follows. In the second section, the present research situation is described and hypothesized. Then we put forward the research model of this study in the third part. We describe the research method in section 4. Section 5 is data analysis. Section 6 includes an explanation of the results. Finally, the conclusion of this study is shown in section 7.

2. Theoretical background and hypotheses

2.1. Influence of labels on purchasing behavior

Scholars have studied different kinds of labels to understand whether and how product labels can influence consumers' purchasing behavior.

Studies on green eco-label, such as Black (1985) [1], Manrai (1997) [2], Bougherara (2009) [3], Atkinson (2014) [4], etc., proposed that when consumers fully trust advertising information, green eco-label will promote consumers to have a healthy and positive attitude towards the product, thus influencing consumers to buy the product.

In the study of nutrition label, Asam (1973) [5] and Burton (1994) [6] pointed out that the nutrition label of products would affect consumer behavior, and the nutrition label with a higher reference value would increase the purchase possibility of consumers. Aschemann (2013) [7], Elshiewy (2016) [8], Kollannoor (2017) [9] and other scholars pointed out that this degree of influence was affected by factors such as consumers' recognition of nutrition labels and personal characteristics.

The research results show that the product label can increase consumers' cognition of the product. Thus, consumers' purchase intention is affected by factors such as consumer trust.

However, the poverty alleviation label studied in this paper has not yet been studied by scholars. Like nutrition and ecological labels, poverty alleviation labels are positive and positive labels, which will increase consumers' positive cognition of products. The sales of poverty alleviation products belong to public welfare and charity projects. Relevant studies indicate that consumption of public welfare behaviors that are helpful to the society will positively affect consumers' purchase intention [10]. Thus, the following hypothesis is developed:

H1: having poverty alleviation labels will positively affect consumers' purchasing intentions

2.2. Influence of comments on purchase intention

The research of online comments has been a hot topic in recent years. David (2004) [11], Liu (2006) [12] and other scholars pointed out that the more film critics there are, the better the sales of the film will be. This indicates that the number of online reviews will positively affect the sales volume of products and consumers' purchasing intentions. Park (2007) [13], Dan (2007) [14] and other scholars studied the mechanism of evaluation factors affecting consumer behavior. They conclude that online evaluation influences consumers' purchase intention and purchase behavior by influencing consumers' perceived trust, risk and perceived value.

In general, more online comments will positively and positively influence consumers' purchase intention of products, which has been confirmed by many empirical studies. Therefore, the following hypothesis is developed:

H2: The higher the quantity, the more positive the purchase intention will be.
In some product labeling studies, scholars put forward the research on the impact of interaction between labels and other factors on consumers' purchasing intentions. Ivonne (2007)\(^{15}\) points out that the interaction between warning labels and the source of labels will affect consumers' purchasing behaviors. Atkinson (2014)\(^{16}\) also proposed that the interaction between government attitude and environmental protection labels would have an impact on purchasing behavior. Therefore, the interaction between poverty label variable and evaluation quantity variable in this paper may also have an impact on consumers' purchasing intention of poverty alleviation products.

Wang (2012)\(^{17}\) pointed out that when donors have achieved good results, their willingness to donate will decrease. According to the marginal utility theory in economics, the hypothesis H3 is developed.

\textbf{H3}: The effect of poverty alleviation label on purchase intention depends on the quantity of evaluation.

\textbf{H3a}: When the number of evaluations is large, the poverty alleviation label has no impact on the purchase intention.

\textbf{H3b}: When the number of evaluations is small, the poverty alleviation label has a positive impact on purchase intention.

\subsection*{2.3. Use and Satisfaction theory}

Swanson (1979)\(^{18}\) scholars pointed out that in the use and satisfaction theory, audiences choose to receive media information to meet their own needs out of different motivations, so as to get satisfaction. Rubin (1983)\(^{19}\) pointed out that the media motivation of the audience includes the role of appeal and expectation. As a psychological feature, appeal can influence media consumption behavior in the context of use and satisfaction.

In the era of e-commerce, media audiences can select media information more purposefully, which enhances the efficiency of the “use and satisfaction” theory and expands the application field of the theory. Therefore, scholars Tang (2010)\(^{20}\) and Hu (2013)\(^{21}\) analyzed the use and satisfaction theory of online shopping behavior. They point out that consumers get enjoyment and satisfaction from the use of shopping network and realize the satisfaction of self-expression. This is an important reason why consumers like online shopping.

In general, in the field of consumer behavior of e-commerce purchases studied in this paper, the use and satisfaction theory plays its role. In order to meet their specific needs, consumers choose to use e-commerce platforms to make purchase decisions.

\subsection*{2.4. Emotional appeal and Functional appeal theory}

In 1986, scholars Park and Bernard divided consumers' basic demands into functional demands, symbolic demands and experiential demands, and pointed out that these are important factors influencing consumers' brand choice\(^{22}\). Holbrook (1984) points out that consumers' choices can be based on both rational factual information and emotional factors, which will have different influences on the audience\(^{23}\).

Johar (1991)\(^{24}\) and Stafford (1995)\(^{25}\) pointed out that consumers' functional demands are to attach importance to utilitarian benefits of products, such as rational information such as high quality, economy and reliability of products. On the other hand, Cutler and Javalgi (1993)\(^{26}\) proposed that consumers' emotional demands are related to their own emotional feelings, such as
adventure, fear, romance and so on. Quite a few studies, such as Cutler (1993) and Shimp (2013) [27], have proposed that consumers' motivation will affect them, and emotional and functional demands will have a great impact on consumers' purchasing behavior.

In general, marketing activities aimed at consumers' functional and emotional demands aim to satisfy these two kinds of demands and then influence their purchasing behavior. Through the above theory, we can believe that there is a label for poverty alleviation will affect the consumer to the satisfaction of emotional appeal, let consumers have purchased the poverty alleviation goods more satisfaction and help social achievement. At the same time, the poverty alleviation label will affect consumers' satisfaction of functional demands, which can enhance the satisfaction of consumers who buy poverty alleviation products on product quality. Therefore, the functional demands of consumers who buy poverty alleviation products will be satisfied accordingly. Therefore, the following hypothesis is developed:

**H4**: The effect of poverty alleviation label on purchase intention is mediated by the satisfaction of emotional appeal

**H5**: The effect of poverty alleviation label on purchase intention is mediated by the satisfaction of functional demands

3. Research model

This study combines the theory of emotional demand and functional demand, based on the literature research on the quantity of evaluation and Use and Satisfaction theory. Explore the main effect, the impact and effect of poverty alleviation label on consumers' purchase intention. Analyze the impact of the interaction between quantity and poverty alleviation label on consumers' purchasing intention. Purchase intention is the final dependent variable. Consumers' satisfaction with the emotional appeal and function demands of satisfaction as the intervening variable, check the label for poverty alleviation effect on consumer purchase intention. The hypothesis model is shown in figure 1.

4. Research methodology

4.1 Research design

In order to verify the hypothesis and model, this paper designed a comparison experiment between groups of 2 (poverty alleviation label with/without) × 2 (evaluation quantity is large/small).
According to the correlation of sales volume and other information, this study selected the poverty alleviation product eggs as the research object. Before the experiment began, we used interviews and questionnaires to determine the information setting of the experiment materials and the design of the questionnaire. Finally, we invited volunteers to participate in the experiment and collect relevant information.

The questionnaire of this study aims to evaluate the satisfaction degree of consumers' purchase intention and related demands for the products in the experimental materials. Therefore, a total of 3 types of variables were designed in the questionnaire, including independent variables, poverty alleviation labels and evaluation quantity, dependent variables, and other variables, such as the satisfaction degree of functional demands and emotional demands of consumers. The independent variable of poverty alleviation label and evaluation quantity is 0-1 variable. 0 indicates that the experimental commodities do not contain poverty alleviation labels or the quantity of evaluation of experimental commodities is small. 1 indicates that there are more experimental commodities with poverty alleviation labels or evaluation of experimental commodities. The satisfaction degree of consumers' purchase intention, emotional appeal and functional appeal is measured by the scale.

4.2 Scale design

The 7-level likert scale was used in the design of questionnaire. The purchase intention measurement part of this paper refers to Lim (2004)\textsuperscript{28} 's e-commerce purchase intention scale, which consists of five questions, including whether it is possible to browse and possibly buy etc. As for the questionnaire design of satisfaction degree of emotional demand and functional demand's satisfaction degree, this study referred to the scale design of Thogersen (2010)\textsuperscript{29}, Ding (2010)\textsuperscript{30} and Akpinar (2017)\textsuperscript{31}. There are six questions in the emotional appeal scale, including whether the purchase of the product feels helpful to others and meaningful. There are three questions in the measurement scale of functional appeal, including whether the products purchased meet the quality requirements and so on.

5. Data analysis

In order to test the control of the dependent variable of the experiment, the questionnaire tested the volunteers' memory of the dependent variable in the experimental materials. After analysis, we found that 4.9% of the poverty alleviation labels ignored the dependent variables of the experiment, and 4.1% volunteers ignored the evaluation quantity. This indicates the successful manipulation of the dependent variable of the experiment. The Alpha coefficients of the scales in the questionnaire were all greater than 0.9, which was highly reliable. The KMO value of the questionnaire was 0.904, and the validity of the questionnaire passed the test. From this, we move on to the next step of analysis.

The next,we call purchase intention PI for short,Poverty Alleviation Label PL for short, Emotional demand satisfaction ES for short,Functional demand satisfaction FS for short, and Comment Quantity CQ for short.

5.1 Main effect analysis

The main effects of this study are the impact of poverty labels and evaluation quantity on consumers' purchase intention. Table 1 carries out correlation test of the three and obtains the
conclusion of high correlation.

Table 1 Correlation Coefficients between variables.

<table>
<thead>
<tr>
<th>variable</th>
<th>mean</th>
<th>St</th>
<th>PL</th>
<th>CQ</th>
<th>PI</th>
</tr>
</thead>
<tbody>
<tr>
<td>PL</td>
<td>0.530</td>
<td>0.501</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CQ</td>
<td>0.480</td>
<td>0.502</td>
<td>-0.031</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>PI</td>
<td>4.317</td>
<td>1.422</td>
<td>0.340**</td>
<td>0.581**</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: ** means correlation is significant at the 0.01 level (2-tailed).

A linear regression model was used for further verification. Results in Table 2, the validity of poverty alleviation label (0.965, p=0.000) and the validity of evaluation quantity (1.656, p=0.000). Poverty alleviation labels positively affect consumers' purchasing intentions; Evaluation quantity positively affects consumers' purchase intention. H1 and H2 hypothesis are confirmed.

Table 2 Regression results of PL and CQ on PI.

<table>
<thead>
<tr>
<th>variable</th>
<th>B</th>
<th>Std.Error</th>
<th>Beta</th>
<th>t</th>
<th>sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>constant</td>
<td>3.807</td>
<td>0.178</td>
<td></td>
<td>21.402</td>
<td>0.000</td>
</tr>
<tr>
<td>PL</td>
<td>0.965</td>
<td>0.245</td>
<td>0.340</td>
<td>3.945</td>
<td>0.000</td>
</tr>
<tr>
<td>constant</td>
<td>3.510</td>
<td>0.147</td>
<td></td>
<td>23.852</td>
<td>0.000</td>
</tr>
<tr>
<td>CQ</td>
<td>1.656</td>
<td>0.211</td>
<td>0.585</td>
<td>7.861</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Note: the dependent variable is purchase intention.

Next, we analyze the interaction between evaluation quantity and poverty alleviation label. The results of variance analysis show that M<sub>PI</sub>=2.50 when there is no poverty alleviation label in the case of few evaluations. M<sub>PI</sub>=4.34 and F (1,58) =49.042 when there is a poverty alleviation label. M<sub>PI</sub>=2.07 when there is no poverty alleviation label in the case of multiple evaluations; M<sub>PI</sub>=2.26 and F (1,58) =49.042 when there is a poverty alleviation label. This result indicates that their interaction will have an impact on consumers' purchasing intentions.

For further test, T test results of independent samples are shown in Table 3. Evaluation, we found that the presence of poverty alleviation label has the remarkable difference influence on purchase intention; This effect is not significant after long evaluation. Hypothesis H3 was confirmed.

Table 3 Independent Sample T test.

<table>
<thead>
<tr>
<th>variable</th>
<th>F</th>
<th>Sig.(2-tailed)</th>
<th>t</th>
<th>N</th>
<th>Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>CQ less</td>
<td>PI</td>
<td>0.237</td>
<td>0.000</td>
<td>-7.00</td>
<td>60</td>
</tr>
<tr>
<td>CQ more</td>
<td>PI</td>
<td>0.597</td>
<td>0.404</td>
<td>-0.840</td>
<td>57</td>
</tr>
</tbody>
</table>

Note: test at significance level of 0.05

5.2 Analysis of mediating effect

In order to verify the consumers' satisfaction with the emotional appeal and functional in poverty alleviation labels on consumer purchase intention of intermediary effect. Regression equation method is used in this study.

It can be concluded from Table 4 and Table 5 that the effect of poverty alleviation label on purchase intention is mediated by the satisfaction of emotional appeal, which is a complete mediating effect. The effect of poverty alleviation labels on purchase intention is mediated by the satisfaction of functional demands, which is incomplete. Hypothesis H4 and H5 is proven.
Table 4 Regression model of ES mediating effect test.

<table>
<thead>
<tr>
<th>variable</th>
<th>Model (1)</th>
<th>Model (2)</th>
<th>Model (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>constant</td>
<td>2.395</td>
<td>3.807</td>
<td>2.335</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
<td>(0.001)</td>
</tr>
<tr>
<td>PL</td>
<td>1.311</td>
<td>0.965</td>
<td>0.159</td>
</tr>
<tr>
<td></td>
<td>(0.027)</td>
<td>(0.000)</td>
<td>(0.541)</td>
</tr>
<tr>
<td>ES</td>
<td>-</td>
<td>-</td>
<td>0.615</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.000)</td>
</tr>
<tr>
<td>dependent variable</td>
<td>ES</td>
<td>PI</td>
<td>PI</td>
</tr>
</tbody>
</table>

Note: values in brackets are significance values of regression test.

Table 5 Regression model of ES mediating effect test.

<table>
<thead>
<tr>
<th>variable</th>
<th>Model (1)</th>
<th>Model (2)</th>
<th>Model (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>constant</td>
<td>4.006</td>
<td>3.807</td>
<td>0.979</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
<td>(0.001)</td>
</tr>
<tr>
<td>PL</td>
<td>0.541</td>
<td>0.965</td>
<td>0.583</td>
</tr>
<tr>
<td></td>
<td>(0.027)</td>
<td>(0.000)</td>
<td>(0.002)</td>
</tr>
<tr>
<td>FS</td>
<td>-</td>
<td>-</td>
<td>0.706</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.000)</td>
</tr>
<tr>
<td>dependent variable</td>
<td>FS</td>
<td>PI</td>
<td>PI</td>
</tr>
</tbody>
</table>

Note: values in brackets are significance values of regression test.

6. Discussions and implications

Through a comparison experiment between 2×2 groups, data collection and analysis, the following conclusions are obtained.

Firstly, the poverty alleviation label will positively influence consumers' purchase intention. Because it belongs to Cause-related Marketing. Barnes (1991) defined Cause-related Marketing as charitable sales promotion[^32]. China's relevant policies in 2016 include poverty alleviation as a charity activity. Sales of poverty-relief products in e-commerce poverty alleviation belong to Cause-related Marketing. Chaney (2001)[^33] and Arora (2007)[^34] proposed that Cause-related Marketing activities would significantly and effectively influence consumers' purchase and positively influence consumers' purchase intention.

Secondly, the interaction between the evaluation quantity and the poverty alleviation label will have different influences on consumers' purchase intention. This is because of the diminishing marginal utility of sales of poverty alleviation goods. Wang Dahai (2012) pointed out that in charity activities, donors will reduce their willingness to donate as the achievements of the donation activities increase. When the number of evaluations keeps increasing, the sense of achievement consumers get from purchasing poverty-relief commodities keeps decreasing, so the marginal utility of purchasing intention decreases accordingly.

Third, in the purchase of poverty-relief goods, the satisfaction degree of consumers' emotional and functional demands, as an intermediary effect, affects the impact of poverty alleviation labels on consumers' purchasing intentions. Data show that when there is a poverty alleviation label, consumers will significantly produce higher satisfaction of emotional appeal and functional appeal. The satisfaction of demands will affect consumers' purchase intention (Shimp 2013[^35]). Therefore,
the satisfaction degree of emotional appeals and functional appeals act as mediating effects on the influence of poverty alleviation labels on consumers' purchasing intentions.

7. Conclusion

We studied the effect of poverty alleviation label and quantity on consumers' purchasing intention through experimental method. The mediating role of emotional appeal and functional appeal is analyzed. We get that consumers are more likely to buy products when they have a poverty label. The conclusion that the increase of evaluation quantity will positively affect consumers' purchase intention. At the same time, we also get that when the number of evaluations is small, having a poverty alleviation label will significantly increase consumers' purchase intention; However, in the case of a large number of evaluations, the poverty alleviation label has no significant impact on consumers' purchase intention.

In view of this, we propose several Suggestions. First, we should attach importance to and make rational use of the poverty alleviation label. Increase the publicity and popularization of e-commerce poverty alleviation policies and expand the popularity of poverty alleviation labels on e-commerce platforms. Let consumers know more about poverty labels, so as to play the role of poverty labels and promote the purchase of poverty alleviation products. Second, in the e-commerce operation and management of poverty-relief products, consumers should be encouraged to make comments. Thirdly, attention should be paid to the expression of emotional appeal and functional appeal of products in the marketing of poverty alleviation products. To achieve better communication effect, so that consumers have a more positive attitude, increase the purchase intention of consumers.

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