Research on Consumers' Buying Behavior in the Context of "Helping Farmers Live": Based on the Dual Role of Economic Rationality and Normative Rationality

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Research on Consumers' Buying Behavior in the Context of "Helping Farmers Live":
Based on the Dual Role of Economic Rationality and Normative Rationality

(Full Paper)

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ABSTRACT
Abstract: As the digital economy has become an important driving force for a new round of global industrial change, live e-commerce has become a new outlet, and the "agriculture assisted live broadcasting" has emerged. This paper combines the existing literature and combines the characteristics of "agriculture assisted live broadcasting" to get a theoretical research model of consumers' purchasing behavior in the context of "assisted farmer direct broadcast". Using questionnaire survey method to collect data for empirical analysis, the research found that consumers' perceived risk negatively affects purchase intention; efficacy positively affects purchase intention; consumer purchase intention positively affects purchase behavior; consumer perceived value and social norms have no significant effect on purchase intention. Finally, this article makes suggestions for businesses and relevant departments of the live broadcast industry.

Keywords: Help farmers live broadcast, economic rationality, normative rationality, purchasing behavior research

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INTRODUCTION
The digital wave promotes the construction of a live broadcast ecosystem for enterprises and is becoming a new engine driving economic growth. In 2018, the scale of my country's digital economy doubled that of 2014, reaching 31.3 trillion yuan, accounting for 34.8% of GDP. In the long run, live video streaming has become an important driving force for enterprises' digital transformation. According to the survey, short videos, long videos, and live broadcasts account for more than 45% of the content marketing forms that consumers have come into contact with. In the short term, the epidemic has become a catalyst for the digital transformation of enterprises. As of March 2020, my country's e-commerce live broadcast users accounted for 29.3% of the total netizens (iResearch, 2020). Under the influence of the country's precise poverty alleviation strategy, "assisting farmers live broadcast" has emerged. In June 2020, the Circulation Industry Promotion Center of the Ministry of Commerce issued a notice to host the national agricultural and commercial interconnection to help farmers live and carry goods, encouraging leaders of government departments at all levels and anchors to live and carry goods.

Under the background of this year's epidemic, the circulation of agricultural products has been blocked and the sales of agricultural products have been blocked. Major broadcasters have cooperated with government leaders, CCTV hosts, and entertainment stars to carry out "Agricultural Live Broadcasting" to help farmers sell their agricultural products. Helping farmers live broadcast is faced with problems such as lax supervision, consumer distrust, data falsification, and commodity sales. There are many views but the transaction rate is not high. How to increase the transaction rate in the live broadcast is an urgent problem that needs to be solved.

This article defines the live broadcast of agricultural assistance as a live broadcast activity initiated on the Internet e-commerce platform to help agricultural producers sell agricultural products. "Helping farmers live broadcast" has the dual attributes of public welfare and low prices. Consumers' behavior of purchasing agricultural products in "helping farmers live broadcast" is given multiple meanings due to the dual attributes. The theory of social exchange believes that the interaction between people is essentially a process of obtaining the maximum benefit for the least cost, which is human economic rationality (Krebs, 1970); the theory of social norms believes that the interaction between people is also driven by an altruistic society. The influence of norms is human normative rationality. When making purchase decisions, consumers' behavior is driven by both economic rationality and normative rationality. In the dual context of "helping farmers live broadcast", whether economic rationality or normative rationality plays a key role in consumer purchasing behavior? In order to explore this problem, this paper conducts an empirical study on consumers' purchase behavior in the context of "direct broadcast of agricultural assistance" from two aspects of economic rationality and normative rationality through questionnaire survey, and draws research conclusions, which can provide constructive suggestions for the practice of live broadcast of agricultural assistance.

LITERATURE REVIEW AND RESEARCH HYPOTHESIS
Consumers' Economic Rationality and Its Influencing Factors
A basic assumption of economics is the "economic man" assumption. "Economic man" assumes that the economic actions taken by every person engaged in economic activities are trying to obtain their own maximum economic benefits at their own minimum economic costs. In any economic activity, only such people are "rational people." Herbert Simon defined "rationality" as "a way of achieving a specified goal within given conditions and constraints." This article defines the economic rationality of consumers in the process of purchasing behavior as consumers who will always make the most beneficial purchasing choice under the existing conditions when making purchasing behavior decisions (Tomer, 2008). Through the establishment of online consumption scenes, the help farmer live broadcast allows consumers to experience real-time interaction similar to offline consumption scenes and stimulate consumption desire. In order to obtain brand exposure and introduce low-cost traffic, the supplier of the help farmer live broadcast will provide products and services below the market price for the live broadcast room. Consumers can reduce the cost of information acquisition and obtain limited time and low price during the live broadcast to reduce the purchase cost. The live interactive experience can also greatly reduce the perceived risk of online shopping. In conclusion, consumers' perceived value and perceived risk are key factors that affect their purchasing decisions in helping farmers live broadcast. Therefore, this article selects perceived value and perceived risk as the influencing factors of consumer purchase intention in the context of "helping farmers live broadcast".

Perceived value is the overall evaluation of the utility of a product or service that consumers get after weighing the perceived benefits and sacrifices to obtain a product or service. Consumers' perceived value is their subjective evaluation based on their subjective feelings about the products or services they obtain (Chen, 2003). In previous studies, scholars divided perceived value into different dimensions (Sheth, Newman & Gross, 1991). This study selects quality value and price value in Sweeney's division and definition of perceived value (Sweeney, & Soutar. 2001). Quality value refers to the utility brought about by comparing the perception of the quality of the product or service obtained by the customer after purchasing the product or service with their expectations. Price value refers to the utility of the cost reduction that customers feel during the purchase process. It has been proved that perceived value can predict consumers' purchase intention. Zeithaml’s (1998) research proves that consumers' perceived value of a product or service significantly positively affects their purchase intention. The conclusion that the greater the perceived value, the stronger the consumer's willingness to buy, has been verified in most studies (Zeithaml, Berry, & Parasuraman, 1996). In the context of helping farmers live broadcast, what consumers intuitively feel is the quality and price of the products. The lower the price, the better the quality, the greater the perceived value and the stronger the purchase intention. Therefore, this paper makes the following assumptions:

H1: Consumers’ perceived value has a significant positive impact on consumers’ purchase intention in the context of “helping farmers live broadcast”

Perceived risk refers to consumers' psychological feelings of worry due to the uncertainty of the result when making purchase decisions. (Laforet, 2010). Harvard University professor Bauer pointed out that perceived risk is not the actual risk but the subjective perception of the negative impact that consumers may have on their choices. If consumers do not feel the risk when making a purchase decision, then risk factors will not affect the consumer's decision. Scholars at home and abroad have divided the dimensions of perceived risk when they study it. Cox and Rich (1964) divide perceived risk into two aspects: financial and social psychology. Jarvenpaa and Todd are (1996) the first to propose that the perceived risks faced by consumers in the Internet environment are mainly from five sources: function, security, economy, society, and privacy. Privacy risk is the first it appears in the division dimension of perceived risk. Relevant research shows that consumers are more likely to make purchase decisions when the perceived risk is low enough to make consumers feel that they can bear the risks that may bring bad results (Corritore, Kracher, & Wiedenbeck, 2003). A number of empirical studies have shown that the smaller the perceived risk, the stronger the consumer's willingness to buy (Xie & An, 2020). When shopping in the live broadcast of agricultural assistance, consumers are faced with risks such as the inconsistency between the real object and the live broadcast explanation, and the after-sales service cannot be guaranteed. These risks will make consumers spend more time weighing before making purchase decisions. Once consumers feel that the risk is beyond their acceptable range, they will stop buying. That is, the stronger the risk perceived by consumers, the weaker the purchase intention. Therefore, this paper makes the following assumptions:

H2: Consumers’ perceived risk in the context of “helping farmers live broadcast” has a significant negative impact on consumers’ purchase intention.

**Consumer's Normative Rationality and Its Influencing Factors**

People are driven by economic interests and have stood firm in the history of economics for many years. Economic rationality can explain many human behaviors. With the advancement of society, people who “know the etiquette in a hurry” and don’t have to worry about basic livelihood security begin to consider the impact that their actions may have on society. Studies have shown that Chinese consumers are collectivist, and they may sacrifice their own interests to make behaviors that conform to social norms, that is, people are normative and rational (Yau, 1988). This article defines normative rationality as consumers who perceive normative factors such as social groups' value orientation, ethics and morals, and then make behaviors consistent with the standards recognized by social groups (Long, 2010). "Aid-agricultural live broadcast" has a public welfare attribute due to its characteristics of assistance to farmers. Consumers may feel that they can help farmers outsell agricultural products and have a positive impact on farmers’ lives and make purchases that conform to social norms. Therefore, this paper selects
social norms and sense of efficacy as the influencing factors of consumers' purchase intention in the context of "helping farmers live broadcast".

Social norms refer to the society's attitudes towards individual behaviors. In order to gain group recognition, individuals will actively adopt social norms as their own code of conduct (Sunstein, 2014). Studies have shown that there are two formation paths for the influence of social norms on consumers' socially responsible consumption behaviors in the Chinese context: "internalization mode" and "stress mode". "Internalization mode" refers to consumers transforming social norms into personal values Concepts, which in turn guide their behavior. "stress mode" refers to consumers who are forced by external pressure to adopt socially responsible consumption behaviors just to conform with others in order to conform to the crowd (Long, Tian & Hou, 2016). The "normative focus theory" divides social norms into "descriptive norms" and "command norms" (Cialdini, Kallgren, & Reno, 1991). Sheng and Ge (2019) focused on imperative norms from the perspective of social interaction theory, and found through comparative experiments that imperative norm information can enhance consumers' green purchase intentions compared with ordinary environmental protection information. Social norms play an important role in consumers' socially responsible consumption and other pro-social behaviors. Wang and Lei (2015) divide the formation mechanisms of socially responsible consumption into three categories. Among them, the social norm mechanism belongs to the middle-end mechanism, explaining how external social norms are playing a role. Existing domestic and foreign studies on social norms on consumer's socially responsible consumption behaviors have all proved that social norms positively affect socially responsible consumer behaviors. Because of the characteristics of assisting farmers, direct seeding has pro-social attributes, and will form social norms in social groups to affect consumers' purchase intentions. Therefore, this article makes the following assumptions:

H3: In the context of "helping farmers live broadcast", social norms have a significant positive impact on consumers' purchase intention.

According to the theory of social norms, social norms can stimulate people's pro-social behaviors, but studies have found that consumers' socially responsible consumption behaviors are also affected by consumers' self-efficacy. Efficacy in the field of management marketing refers to consumers' subjective judgments about the positive impact that their efforts may have on the environment and society when they conduct socially responsible purchases. It is consumers' expectations of the results (Long et al., 2020). Starting from the psychological distance that affects socially responsible consumption, Wang and Lei (2015) use the efficacy-attitude-behavior (willingness) model as a near-end mechanism, mainly explaining the influence of consumers' internal psychological factors. The empirical research of scholars such as Long et al. (2020) has shown that when the level of efficacy or proactive personality is high, it can effectively reduce the intention-behavior gap of socially responsible consumption. When consumers perceive that their buying behavior can change their environment or society, they will be more inclined to make behaviors. In the live broadcast of helping farmers, consumers who are persuaded by the anchor will have a stronger sense of efficacy and more likely to produce purchase intentions. Therefore, this article makes the following assumptions:

H4: In the context of "helping farmers live broadcast", consumer's sense of efficacy has a significant positive impact on purchase intention.

**The Influence of Consumers' Purchasing Intention on Purchasing Behavior**

The theory of planned behavior believes that an individual's behavior is affected by his behavioral willingness of that kind of behavior, and other factors all influence behavior through behavioral willingness (Ajzen & Driver, 1992). In the research field of socially responsible consumption, the effect of purchase intention on socially responsible consumption behavior is regulated by factors such as sense of efficacy, initiative personality, ethical cognitive effort, and material environment. This article believes that consumers' purchase intention can still predict purchase behavior in the context of helping farmers live broadcast. Therefore, this article makes the following assumptions:

H5: In the context of "helping farmers live broadcast", consumers' purchase intention has a significant positive impact on purchase behavior.

Therefore, the theoretical model of this research is shown in Figure 1:
Figure 1: Research model

RESEARCH DESIGN AND EMPIRICAL ANALYSIS

Scale Design and Data Collection

This article refers to the live broadcast and the mature scales in the literature related to social responsibility consumption behaviors to modify and improve, and add the feature of "help farmers live broadcast" without changing the basic meaning of the measurement items. Each item used Five-level Likert scale. Table, and finally got a total of 25 measurement items for six variables.

The questionnaire includes two parts: a survey of the respondents' basic information and a measurement scale. The questionnaire is made using "Questionnaire Star" and distributed through online social platforms in the form of links. Finally, 242 questionnaires were collected and sorted out. After excluding invalid questionnaires, 222 valid questionnaires were obtained, with an effective rate of 91.7%.

Descriptive Statistical Analysis

The descriptive statistical analysis of the respondents' basic information is shown in Table 1:

<table>
<thead>
<tr>
<th>Basic Features</th>
<th>Classification</th>
<th>Number of Samples</th>
<th>Proportion(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>70</td>
<td>31.5</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>152</td>
<td>68.5</td>
</tr>
<tr>
<td></td>
<td>18-28 years old</td>
<td>190</td>
<td>85.6</td>
</tr>
<tr>
<td>Age</td>
<td>29-44 years old</td>
<td>21</td>
<td>9.5</td>
</tr>
<tr>
<td></td>
<td>45 years old and above</td>
<td>11</td>
<td>5.0</td>
</tr>
<tr>
<td>Junior high school andbelow</td>
<td>10</td>
<td>4.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>High school</td>
<td>7</td>
<td>3.2</td>
</tr>
<tr>
<td>Education</td>
<td>Specialist</td>
<td>26</td>
<td>11.7</td>
</tr>
<tr>
<td></td>
<td>Undergraduate</td>
<td>125</td>
<td>56.3</td>
</tr>
<tr>
<td></td>
<td>Master degree and above</td>
<td>54</td>
<td>24.3</td>
</tr>
<tr>
<td>Monthly consumption level</td>
<td>Below 1000 yuan</td>
<td>16</td>
<td>7.2</td>
</tr>
<tr>
<td></td>
<td>1000-2000 yuan</td>
<td>131</td>
<td>59.0</td>
</tr>
<tr>
<td></td>
<td>2000-3000 yuan</td>
<td>40</td>
<td>18.0</td>
</tr>
<tr>
<td></td>
<td>3000 yuan or more</td>
<td>35</td>
<td>15.8</td>
</tr>
</tbody>
</table>
Reliability and Validity Test

Reliability Test
This article uses Cronbach’s α coefficient to evaluate the reliability of the collected samples. It is generally believed that the Cronbach’s α coefficient is greater than 0.7, and the scale has high reliability. The results of Cronbach’s α coefficients of the variables in this paper are shown in Table 2:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Perceived value</th>
<th>Perceived risk</th>
<th>Social norms</th>
<th>Self-efficacy</th>
<th>Purchase Intention</th>
<th>Purchase behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cronbach’s α</td>
<td>0.772</td>
<td>0.798</td>
<td>0.737</td>
<td>0.791</td>
<td>0.770</td>
<td>0.835</td>
</tr>
</tbody>
</table>

From the results in Table 2, it can be seen that the Cronbach’s α coefficient of each variable is greater than 0.7, and the overall validity of the scale is 0.869, which is greater than 0.8. The reliability of the scale is good.

Validity Test
The scale of this article refers to a large number of mature scales, which have high content validity. Exploratory factor analysis is used to test the validity of the structure. The KMO and Bartlett sphere tests are first performed on the scale. It is generally believed that KMO greater than 0.7 indicates that it is suitable for factor analysis. The test results of each variable are shown in Table 3:

<table>
<thead>
<tr>
<th>Variable</th>
<th>KMO</th>
<th>Bartlett's test</th>
<th>df</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.874</td>
<td>2025.276</td>
<td>171</td>
<td>.000</td>
</tr>
</tbody>
</table>

The KMO and Bartlett sphere test results show that the KMO value is 0.874, which is greater than 0.7. The Bartlett sphere test is significant and can be used for factor analysis. The factor analysis uses principal component analysis to extract the characteristic value of each factor that is greater than 1, and the cumulative variance of the explanatory variable is 63.54%, which exceeds 50%. At the same time, the factor loading of each observation item is above 0.5, and the scale structure validity is good.

Hypothetical Test
This article uses Amos 24.0 to fit the model and hypothesis test. The model fit index is shown in Table 4:

<table>
<thead>
<tr>
<th>Index</th>
<th>IFI</th>
<th>TLI</th>
<th>CFI</th>
<th>RMSEA</th>
<th>CMIN/DF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model fit</td>
<td>.857</td>
<td>.824</td>
<td>.855</td>
<td>.095</td>
<td>2.977</td>
</tr>
</tbody>
</table>

The results show that: IFI, TLI, and CFI indicators are greater than 0.8, within the acceptable range. RMSEA is 0.095, less than 1, and the degree of adaptation is acceptable, and CMIN/DF is 2.997, less than 3, which is acceptable, and the model has a good degree of adaptation. Subsequent hypothesis verification can be performed. The path verification results are shown in Table 5, and the model of test results is shown in Figure 2.

<table>
<thead>
<tr>
<th>Hypothesis Test</th>
<th>Path coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1: Consumers’ perceived value has a significant positive impact on consumers’ purchase intention in the context of “helping farmers live broadcast”</td>
<td>-0.047</td>
</tr>
</tbody>
</table>
H2: Consumers’ perceived risk in the context of “helping farmers live broadcast” has a significant negative impact on consumers’ purchase intention. -0.175**

H3: In the context of "helping farmers live broadcast", social norms have a significant positive impact on consumers' purchase intention. 0.130

H4: In the context of "helping farmers live broadcast", consumer’s sense of efficacy has a significant positive impact on purchase intention. 0.916***

H5: In the context of "helping farmers live broadcast", consumers' purchase intention has a significant positive impact on purchase behavior. 0.645***

Note: *p<0.1, **p<0.05, ***p<0.01 mean significant levels.

According to the results of hypothesis path test, hypothesis 1 does not pass the significance test for the influence of perceived value on purchase intention; hypothesis 2 has significant negative effect on purchase intention with path coefficient of 0.175; hypothesis 3 has no significant effect on purchase intention; Hypothesis 4 has significant positive effect on purchase intention. The path coefficient is 0.916; Hypothesis 5 shows that the positive impact of consumers' purchase intention on purchase behavior passes the significance test, and the path coefficient is 0.645.

ANALYSIS CONCLUSION

First of all, consumer perceived risk has a negative impact on purchase intention. In online shopping, consumers feel that the higher the risk factors such as the insecurity of funds, the possibility of privacy leakage and the uncertainty of receiving products, the lower the possibility of purchasing intention. Live broadcasting is an important means to attract and sell goods in the e-commerce industry in the past two years. Various platforms and industries have joined the live network to bring goods. On the one hand, live broadcasting can bring benefits to the business platform and consumers. On the other hand, due to the excessive number of participants, the live broadcasting industry is full of talents and talents, which enhances consumers' risk perception of live broadcasting. At the present stage, China has not formed a sound regulatory system to supervise the live broadcast chaos, and the live broadcast selling fake goods, the anchor combined with businesses to cheat fans and other events occur frequently. Although it has the attribute of "helping agriculture", consumers' risk perception is still strong and their willingness to buy will be greatly reduced. Agricultural products are seasonal products, transportation damage and cycle factors will also increase consumer perceived risk and reduce purchase intention. The Enlightenment of this conclusion for live broadcast businesses is that they should strive to establish a positive corporate image, do not fake, sell fake, do not make false preferential publicity, ensure that the quality of the products advertised in the live broadcast room is consistent with the products sold, and that there will be no large loss in the transportation of goods. Consumers will feel that the enterprise is trustworthy, product quality and service can be guaranteed, and consumption can be reduced. Consumers perceive the risk and
improve the purchase intention. The suggestions to the regulatory authorities are to improve the regulatory system, standardize the live broadcasting industry, reduce the occurrence of fake sales, and improve the consumer's preference for live broadcast.

Second, in the context of "helping farmers live", consumer efficacy has a positive impact on purchase intention. Consumer efficacy is a kind of subjective feeling, that is, the greater the positive impact that consumers can bring to farmers and society, the stronger their willingness to buy. Some studies have shown that, compared with the fuzzy expression of donation amount, clear expression of donation amount can cause more positive response from consumers (Zhang, Xu & Yu, 2020). In this paper, the author believes that the clearer and more specific the anchor's positive impact on consumers' purchase behavior, the stronger the sense of consumer efficacy and the stronger the purchase intention. The Enlightenment of this conclusion for businesses is that the anchor can highlight how much products can be sold to farmers and stakeholders, and stimulate consumers' sense of efficacy through specific description, so as to improve their purchase intention.

Third, consumers' purchase intention has a positive impact on their purchase behavior. According to the theory of planned behavior, behavioral intention can predict behavior. In this context, the predictive effect of purchase intention on purchase behavior is also proved. That is, the stronger the consumer's purchase intention, the stronger the possibility of purchasing behavior. Therefore, businesses should strive to improve the willingness of consumers to purchase and promote their purchasing behavior.

Fourth, the positive impact of consumer perceived value and social norms on purchase intention is not established. The reason why the influence of perceived value on purchase intention has not passed the significance test may be that perceived value can be divided into many dimensions, but in this study, it is only divided into price value and quality value, and the concept passed to the subjects is not clear and specific, resulting in errors; it may also be that the live broadcasting industry is not strictly regulated, the quality of products is mixed, and there is no mature industry standard. Consumers feel that they can't buy the products with better value in the live broadcast, the perceived value is low, and the purchase intention is not strong. The Enlightenment of this to the live broadcast side is that to carry out the agricultural live broadcast, we should really provide consumers with high-quality and low-cost products, avoid false publicity, and let consumers feel that they can buy products with good value in the live broadcast of agricultural assistance.

The positive effect of social norms on purchase intention is not significant. The reason may be that the product category of agricultural products has not attracted enough attention of consumers. The behavior of purchasing commodities in the live broadcast of agricultural assistance will not be recognized by social groups. If social norms are not formed, it will not affect the purchase intention. The enlightenment to the relevant departments is that we should vigorously publicize the negative impact of unsalable agricultural products on the economy and society, and call on people to buy more agricultural products and help social groups form social norms related to helping agriculture.

**RESEARCH LIMITATIONS AND PROSPECTS**

The above research conclusions verify the correctness of the starting point of this article "consumer purchasing behavior in helping farmers live broadcast by economic rationality and normative rationality", but it also illustrates the complexity of consumer normative and normative rationality. The scenario of "assisting farmers live broadcast" selected in this article has strong research value, but the author's ability is limited and various conditions are restricted. This article has certain limitations in the exploration of economic rationality and normative rationality.

Future research can divide the perceived value into different dimensions according to the characteristics of the live broadcast of the farmers, such as quality value, price value, emotional value, social value, etc., and explore the effect of each dimension on consumers' purchase intention; for economic rationality and normative rationality. The selection of variables in the two aspects can also be innovated and explored in depth; adjustment variables such as government policies and consumer personal characteristics can also be added to explore whether different external conditions or consumer characteristics will affect economic rationality and normative rationality.

**REFERENCES**


