Research on Tik Tok platform live streaming e-commerce to help rural revitalization based on SOR model

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Abstract: China has set a five-year transition period after the 2020 poverty reduction target is completed. The theme is "Comprehensively Promoting Rural Revitalization and Accelerating Agricultural and Rural Modernization". The initiative aims to consolidate and expand the progress made in poverty alleviation and rural revitalization. Some places began to build a new form of "live streaming e-commerce", bringing goods for rural specialty live streaming e-commerce. Based on the TikTok platform, this paper studies the consumption phenomenon of live streaming e-commerce to help farmers. Aiming at the problem of internet celebrity live streaming e-commerce to help farmers. In this study, SOR model (stimulus-organism-response) was introduced. Modeling is carried out from five aspects of external cognitive value (visibility, professionalism, matching degree, product, quality, and service). At the same time, three variables of internal emotional attitude (trust, satisfaction) and consumption behavior intention were set up. It divides into three latitudes and three levels, which are external cognition, affective attitude, and behavioral intention. Based on this, the corresponding measurement indexes are constructed.

Keywords: live streaming e-commerce, SOR model, AMOS path coefficient test.

1. Introduction

With the rapid development of Internet technology, the Internet infrastructure construction from cities to rural areas has been improved and the advent of the 5G era. It provides good technical support for direct broadcasting with goods. [1]

Since 2019, driven by the government and the platform, the form of live streaming e-commerceing with goods has gradually penetrated into the field of agricultural products sales, becoming a new form of e-commerce to assist agriculture. According to Taobao, by the first quarter of 2020, more than 1.4 million live streaming e-commerces related to agricultural products had been broadcast in China, covering 31 provinces (autonomous regions and municipalities directly under the central government) and more than 2,000 counties, leading more than 60,000 villagers to join.

2. Structural equation analysis based on SOR model

Mehrabian and Russell (1974) first proposed the stimulus-organism-response (SOR) theory. [2] It was first used in the field of psychology. It is used to explain how external environmental stimuli affect individual psychological perception. In turn, the relationship between individual behavior and response is promoted. Where S stands for external Stimulus, which will exert a certain influence on the subject. O is for the Organism that has knowledge. R represents the corresponding Response made by the subject through psychological activities after receiving the stimulus. This paper discusses the relationship between marketing incentive, consumer internal activity, and consumer decision. [3]
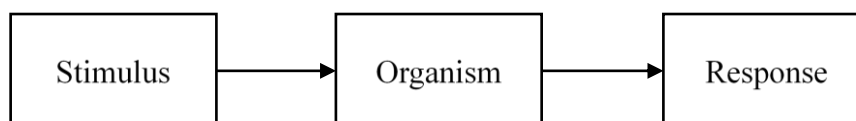

Figure 1: The stimulus-body response model of Mehrabian and Russell

SOR theory model of the individual mood, psychological state into the consideration of the category

of research is full of humanistic care. They also have a scientific spirit. In this study, the SOR model can be used to discuss the internet celebrity direct broadcast to help farmers bring goods. In the face of internet celebrity, agricultural products, and other external stimuli in the consumer market, the body moves internally. Systematic and hierarchical analysis of the role of consumer behavior factors. [4]

Based on the S-O-R driving model, this paper divides into three latitudes and more than 20 specific variables to construct the structural equation model of the influence of internet celebrity on agricultural consumption behavior. The ellipse represents the latent variable. The rectangle represents the measurement variables set by the institute. Arrows show regression relationships between variables.

According to the S-O-R driving model, the initial structural equation model fitting is constructed, as shown in the figure below:
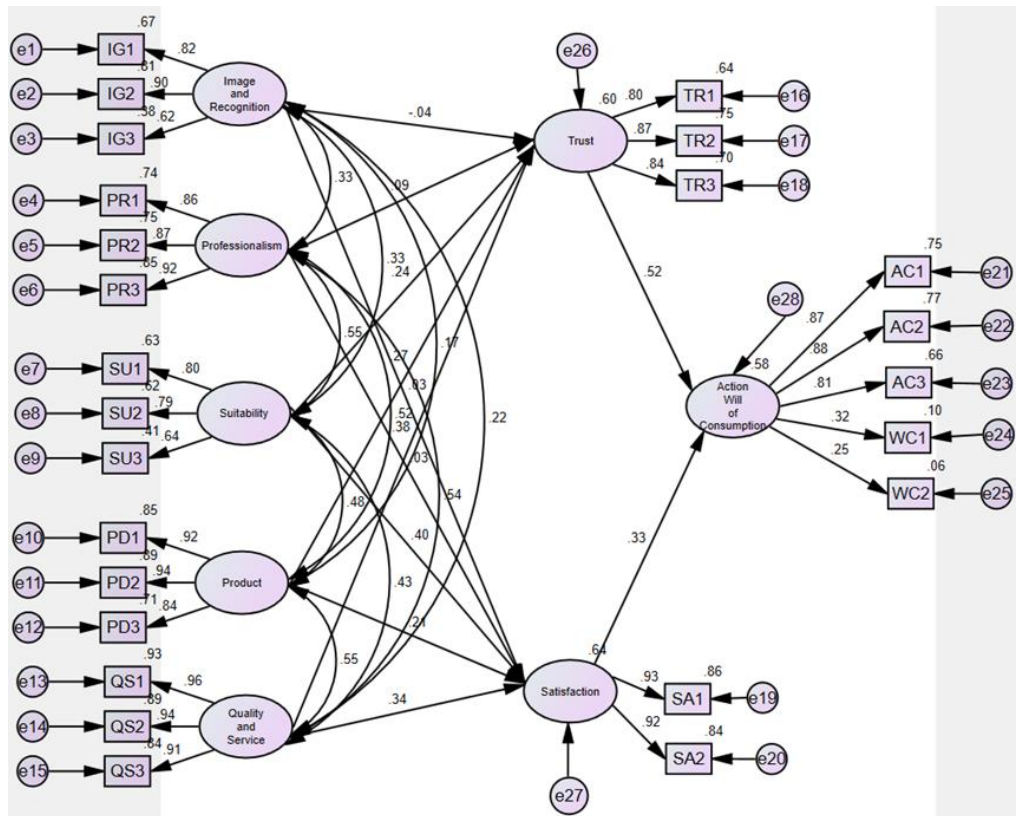

Figure 2: Initial structural equation model

The main fitting exponents of the initial structural equation model all reach the critical range. So decision model can overall fit. The path analysis of the initial model was carried out using AMOS. The results are as follows:

Table 1: Path coefficient results in structural equation model

Hypothesis	Influence path	Normalized coefficient	S.E.	C.R.	P	result
H1	Image_and_Recognition→Trust	0.059	0.079	-0.738	***	T
H2	Professionalism→Trust	0.073	0.053	1.375	***	T
H3	Suitability→Trust	0.309	0.083	3.708	***	T
H4	Product→Trust	0.246	0.053	4.62	***	T
H5	Quality_and_Service→Trust	0.317	0.049	6.475	***	T
H6	Suitability→Satisfaction	0.615	0.101	6.07	***	T
H7	Product→Satisfaction	0.228	0.059	3.874	***	T
H8	Quality_and_Service→Satisfaction	0.343	0.054	6.399	***	T
H9	Image_and_Recognition→Satisfaction	0.058	0.089	0.654	0.513	F
H10	Professionalism→Satisfaction	0.029	0.06	0.489	0.625	F
H11	Satisfaction→Consumption intention	0.291	0.054	5.373	***	T
H12	Trust→Consumption intention	0.55	0.071	7.792	***	T

As can be seen from the above table, among the 12 basic hypothesis influence paths in the initial model, most C.R values are greater than 1.96, and p is less than 0.05. It means significant. The combined

normalization coefficients are all greater than 0. It shows that all the influences are positive. However, the C.R value of professional factors to satisfaction and image and popularity factors to satisfaction is less than 1.96 and p is greater than 0.05. It indicates that the null hypothesis (H9, H10) is rejected, then the null hypothesis is not valid. Specialization, image, and popularity have no significant effect on satisfaction.

3. Model modification

In the initial structural equation model, professionalism, image and popularity factors do not have a significant positive impact on satisfaction. Combined with the fitting data, it is found that there is some deficiency in the establishment of the initial structural equation. Therefore, the model was modified. The main fitting exponents of the modified model all reached the critical range. So the decision model can be fitted. The 10 paths C.R and P of the modified model all meet the standard. The path is obvious. Finally, the path diagram of the structural model is calculated as follows:
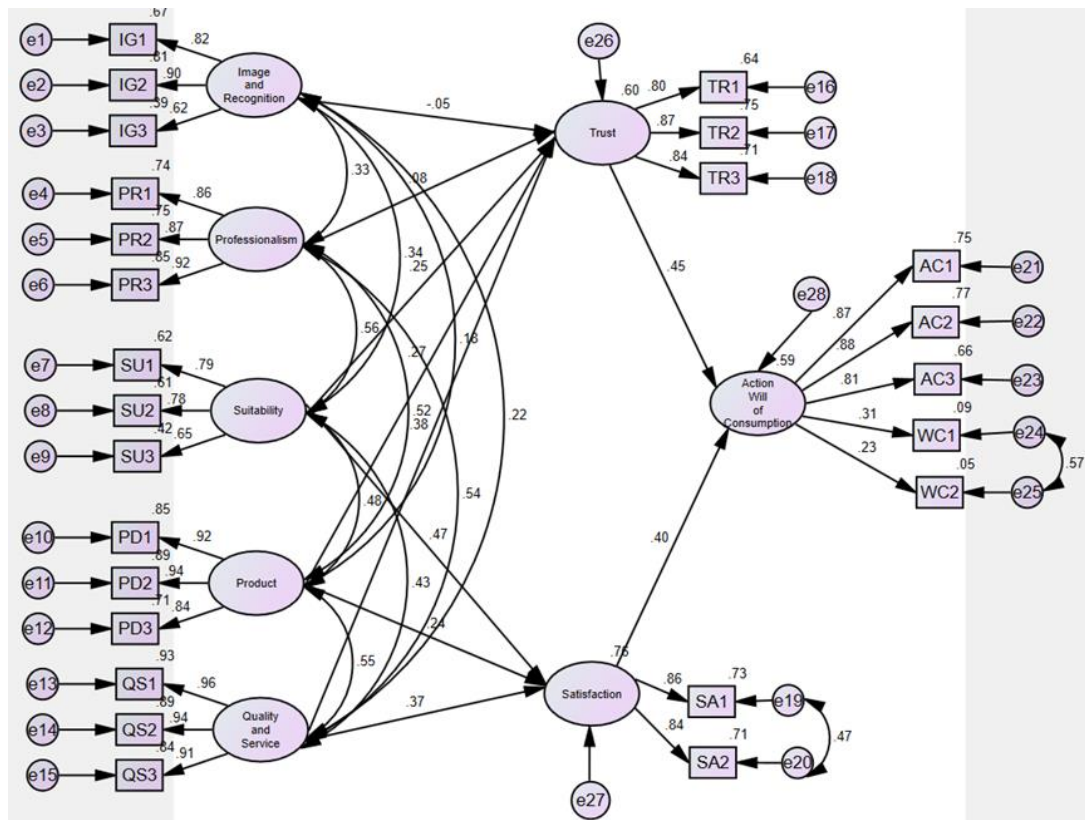

Figure 3: Modified structural model

Based on the final path diagram, the structural equation based on the final path diagram is obtained as follows:

(1) Trust effect value formula:

$$Y_{\text{Trust}} = \lambda_{11}Y_{\text{Recognition}} + \lambda_{12}Y_{\text{Professionalism}} + \lambda_{13}Y_{\text{Suitability}} +$$

$$\lambda_{14}Y_{\text{Product}} + \lambda_{15}Y_{\text{Quality\_and\_Service}} + \varepsilon_1$$

(2) Satisfaction effect value formula:

$$Y_{\text{Satisfaction}} = \lambda_{21}Y_{\text{Suitability}} + \lambda_{22}Y_{\text{Product}} + \lambda_{23}Y_{\text{Quality\_and\_Service}} + \varepsilon_2$$

(3) Total effect value formula of consumption intention behavior:

$$Y_{\text{Consumption intention}} = \lambda_{31}Y_{\text{Trust}} + \lambda_{32}Y_{\text{Satisfaction}} + \varepsilon_3$$

4. Conclusion

According to the revised table of direct path influence coefficient and indirect path influence coefficient, we can see:

1) Analysis of influencing factors of trust

Image and popularity, professional factors than the continuity of factors, product factors, service and quality factors corresponding to the influence of trust coefficient are much smaller. It shows that when internet celebrity guides agricultural consumption, consumers pay more attention to the product itself, the quality, and the service in terms of whether the trust can be increased. The image and popularity of internet celebrities as well as professional factors are not highly valued, or even almost not valued.

2) Analysis of influencing factors of satisfaction

In terms of the increase of satisfaction, the factors that can influence the increase of internet celebrity satisfaction of consumers are product factors, matching degree factors, quality factors, and service factors. It seems that the professional factor of internet celebrity itself, as well as the image and popularity factor, cannot increase consumers' satisfaction with internet celebrity's guidance of consumption and agricultural assistance. Here, we conducted a study on it and found that the first reason why professional factors cannot increase consumer satisfaction may be the insufficient sample size, resulting in errors. The second reason may be that satisfaction is obtained based on consumers' experience of the product. Professionalism can only increase consumers' recognition of internet celebrities, not consumers' satisfaction with the product itself.

3) Comparative analysis of trust and satisfaction

Product factors, matching degree factors, quality and service factors, and professional factors are the main influencing indicators for the increase of consumer trust in internet celebrity agricultural consumption. Quality and service, matching degree, and product factors are the main influencing indicators of consumers' satisfaction with internet celebrity agricultural assistance consumption. It can be seen from the ratio between this and the effect of trust that consumers' consumption is more influenced by the trust.

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