

Research on the Effects of Various Factors in 7Ps Marketing Theory on Short Video Marketing ——Taking the Dissemination of Qianjiang Lobster Short Videos as an Example

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Abstract:

With the rapid rise of short video platforms, short video marketing has become a new way to promote agricultural products. This study takes the short video dissemination of agricultural product Qianjiang lobster as an example to explore the effectiveness of short video marketing in depth. Studying the influencing factors of the marketing effectiveness of crayfish, a characteristic agricultural product, provides useful references and guidance for promoting the dissemination of agricultural product short videos and agricultural product short video marketing, which helps to promote the innovative development of the agricultural product industry. This research selects the accounts of TikTok platform to promote the short video of Qianjiang crayfish, builds the influencing factor model of the short video marketing effect of Qianjiang crayfish based on the 7Ps marketing theory, and uses the non parametric test method to empirically analyze 200 short video samples of Qianjiang crayfish. The research results indicate that eight influencing factors, including title sentence structure, topic, content theme, production category, background music, video duration, release time, and collection setting, have a significant impact on the marketing effectiveness of crayfish short videos.

Keywords: Influencing factors; Short video marketing; agriculture products.

1. Introduction

With the improvement of people's living standards,

they have higher requirements for food, and crayfish are now deeply loved by consumers. In the Internet era, short video platforms have risen rapidly and

become an important channel for people to obtain information and entertainment. Short video marketing has been favored by consumers due to its intuitive, vivid, and fast dissemination characteristics. Sharing videos about crayfish farming, cooking, and other related topics on short video platforms cannot only meet the demand for consumer upgrading, but also provide entertainment value to consumers. Qianjiang crayfish has a high reputation and influence in the field of aquaculture, and TikTok app ranks top in the industry traffic. Therefore, it is believed that the construction of the influencing factor model of the marketing effect of short videos of characteristic agricultural products based on TikTok short video platform will have more reference value.

Based on the rapid development of the Internet plus era, the traditional marketing means have changed to the direction of online marketing. The implementation of network marketing for featured agricultural products is an inevitable trend to adapt to the development of the Internet plus era, and also an inevitable requirement to promote the development of featured agricultural product marketing. By using the Internet new media platform, combined with new marketing models such as live broadcast and e-commerce, Brand influence and market innovation can be strengthened to improve the market competitiveness and sales of characteristic agricultural products. Thus driving local economic development and realizing the strategy of rural revitalization.

Therefore, this article takes the short video marketing of Hubei Province's characteristic agricultural product crayfish as the research question, constructs a marketing effect model based on the 7Ps theory, and collects data for empirical analysis. Based on data analysis, the problems in crayfish short video marketing were identified, and strategies to improve the marketing effectiveness of crayfish short videos were proposed. This provides strong support for exploring new media marketing models for agricultural products, promoting increased farmers' income, and implementing rural revitalization strategies. In addition, this study also provides reference and guidance for short video marketing of other characteristic agricultural or food enterprises in the same industry, thereby promoting the development of the entire agricultural and food industry in the field of short video marketing, creating more commercial value for enterprises, and meeting consumers' demand for high-quality products, promoting the continuous progress of the industry.

2. Construction of Influencing Factor Model

This paper takes the TikTok short video platform as an ex-

ample, and analyzes the factors that affect the short video marketing effect of Qianjiang crayfish agricultural products from seven dimensions in the 7Ps marketing theory, including product factors, price factors, channel factors, promotion factors, personnel factors, process factors, and tangible display factors.

2.1 Product Factors

This paper holds that six influencing factors of short - video, namely title sentence patterns, carried topics, background music, production categories, content themes and subtitle settings, have an impact on product factors [1-6].

2.2 Price Factor

In the short - video marketing of characteristic agricultural products (crayfish), the time cost spent by the audience on watching belongs to the opportunity cost. Therefore, this paper believes that the price factor is affected by the video duration [7].

2.3 Channel Factors

According to the logic of TikTok's push - stream, videos released during the appropriate time period will be pushed more, making them visible to more people. Therefore, this paper holds that the release time of short - videos affects the marketing channels of characteristic agricultural products (crayfish) [8].

2.4 Promotional Factors

A good cover can better arouse users' desire to watch, increase the click - through rate of users and enhance the viewing experience of users. Therefore, this paper believes that the cover picture has a promoting effect on the marketing of characteristic agricultural products (crayfish) [9].

2.5 Personnel Factors

For the short - video marketing of crayfish, the role of big - Vs can better lead the audience to recognize the brand of Qianjiang crayfish, enhance the brand awareness and arouse the audience's desire to learn. Therefore, this paper believes that among the personnel factors, big - Vs play an important role in promoting the brand [10,11].

2.6 Process Factors

In the short - video marketing of Qianjiang crayfish, the presence or absence of comment interaction and community marketing are important influencing factors for video creation [12,13].

2.7 Physical Evidence

In this article, tangible display is mainly divided into two points, namely “top setting” and “collection setting”. By integrating multiple short video contents into a collection, brand exposure and awareness can be enhanced. So in crayfish short video marketing, it is important to prioritize videos and set up collections. It can better help fans or users discover this video and prioritize showcasing the characteristics and advantages of Qianjiang crayfish short video marketing among fan audiences.

3. Empirical Analysis

3.1 Research Design

In order to determine whether the various influencing factors in the model will have a significant impact on the dissemination effect of short videos of characteristic agricultural products, the non parametric test method in SPSS was used to test the significance of their impact. The 14 influencing factors mentioned above will be used as independent variables for this study. Among them, there are 12 independent variables corresponding to the characteristics of a single short video sample, including title sentence structure, carrying topic, content theme, production category, background music, subtitle setting, video duration, publishing time, cover production, comment interaction, top setting, and collection setting; The characteristics of short video accounts for characteristic agricultural products (crayfish) corresponding to two independent variables: big V and community marketing. Therefore, this study will design two sets of dependent variables to reflect the significant impact of different independent variable groups on the marketing effectiveness of individual short video samples and special agricultural product short video crayfish accounts. The first independent variable is the entropy method to calculate the marketing effect of the short video breeding sample of characteristic agricultural products. The second group uses the Qingbo index to comprehensively reflect the overall marketing effect of the short video account of crayfish, a characteristic agricultural product. Therefore, based on the extracted research samples, this article will collect the likes, comments, and shares of short video samples as data on the marketing effectiveness of a single short video sample; Collect the total number of works, total number of fans, fan increment, total number of likes, total number of forwarding, and total number of comments of Tiktok, a special agricultural product (crayfish), as the data reflecting the marketing effect of crayfish short video accounts.

3.2 Data Collection

The research object of this paper is the account on recommendation and promotion of Qianjiang crayfish, a special agricultural product, which is opened on the Tiktok platform. After randomly selecting 19 accounts, the research sample consisted of short videos related to Qianjiang crayfish published by these accounts in the past 2 years. The sampling period is from September 26, 2022 to September 26, 2024. The data collection platform comes from the Chan Mama data platform, and the collected information is all its influencing factors. The final sample size of short videos collected is 200.

3.3 Dependent Variable Calculation

3.3.1 Short video marketing index for featured agricultural products

The data that can reflect the marketing effect in TikTok short videos are like number, comment number and forwarding number. Based on the collected data, this study uses the entropy method to carry out a weighted analysis of the above three data, so as to calculate the marketing effect of short videos of characteristic agricultural products [14]. The entropy method is mainly used to determine the weights of each indicator in a multi indicator system. The core idea is based on the concept of information entropy, which determines the weight of each indicator by calculating its information entropy. Specifically, the entropy method holds that the smaller the entropy of a certain indicator, the greater the degree of variation of that indicator, and the more information it provides. Therefore, the weight of that indicator in the comprehensive evaluation is greater. This research is carried out based on the calculation and analysis process of the entropy value method in Chu Jie - wang's research on the influencing factors of short - video marketing effect in public libraries. During this process, Chu Jie - wang's research has provided methodological guidance and reference examples for this research [23]. The calculation and analysis process based on entropy method in this study is mainly as follows:

Firstly, the three indicators of crayfish short videos were dimensionless processed, and the data was shifted to the right by a value α ($\alpha=0.0001$) to eliminate the impact of

zero and negative values. The formula is $X_{ij}' = \frac{X_{ij} - m_j}{M_j - m_j}$

+ α . Here represents the nth indicator data of the crayfish short video sample, while m_j and M_j are the minimum and maximum values of the nth indicator data, respectively.

Next, calculate the feature density of the crayfish short video sample under the jth indicator, using the formula P_{ij}

$$= \frac{x_i'}{\sum_{i=1}^n x_i'}$$

Then, calculate the entropy value of the jth indicator using

$$\text{the formula } e_j = -\frac{1}{\ln n} \sum_{i=1}^n P_{ij} \ln P_{ij}.$$

Next, determine the coefficient of difference using the formula $g_j = 1 - e_j$

Afterwards, calculate the weight of the evaluation indicators using the formula $W_j = \frac{g_j}{\sum_{j=1}^m g_j}$

$$W_j = \frac{g_j}{\sum_{j=1}^m g_j}$$

Next, calculate the marketing effectiveness score of a single crayfish short video sample using the formula

$$S_i = \sum_{j=1}^n P_{ij} * W_j$$

For the convenience of observation, this study multiplied the score S_i calculated by the entropy method by 105 to obtain the crayfish short video marketing index (hereinafter

referred to as the C index) formula $C_i = S_i * 10^5$

3.3.2 Crayfish short video account spread index

This paper uses the calculation formula of TikTok's communication power index (hereinafter referred to as DCI index) in the "Qingbo Index" platform to comprehensively reflect the overall marketing effect of the short video account of crayfish, a characteristic agricultural product, and evaluates the communication and marketing effect of 19 short video accounts during the period from September 26, 2022 to September 26, 2024. The specific calculation formula is as follows [14].

$$DCI = \{0.10 * \ln(X1+1) + 0.76 * [0.17 * \ln(X2+1) + 0.37 * \ln(X3+1) + 0.46 * \ln(X4+1)] + 0.14 * [0.11 * \ln(X5+1) + 0.89 * \ln(X6+1)]\} * 100$$

Among them, there are X1 new works, X2 likes, X3 comments, X4 shares, X5 new fans, and X6 total fans. This study calculated the DCI index of each account from September 26, 2022 to September 26, 2024 based on the formula, as shown in Table 1.

Table 1. DCI Index Ranking of Various Qianjiang Crayfish as a Featured Agricultural Product from September 2022 to September 2024

ranking	TikTok nickname	DCI	ranking	TikTok nickname	DCI
1	Ridge up	1504.05	10	Stubborn Nanxi	1018.67
2	Hubei Culture and Tourism	1392.92	11	Niu Ren Culture (Liang Jie)	960.73
3	Laughing Sanjiang Pot	1210.62	12	He Guo Guo	957.46
4	Xueersi Premium Products	1188.49	13	Cute horse eating and drinking	954.39
5	Good things bring abundance	1109.91	14	Teacher Xiaoduan eats and eats	890.65
6	Jiang Jiao Poetry	1071.1	15	See you in the countryside very late	812.89
7	Food Diary of the Valley	1068.09	16	Culture and Tourism Qianjiang	804.08
8	The little bear is hungry	1054.74	17	Zongheng Jun travels the world	778.8
9	Duobao Entertainment (Sanjiangguo)	1029.83	18	Fresh bamboo	167.77

4. Results

In the preliminary stage of data verification, it is necessary to verify the normality of the C marketing index and DCI index of crayfish short videos. In this process, Chu Jiewang's research has provided methodological guidance and reference examples for this current research. A total of 200 pieces of data have been extracted by us to conduct classification coding of independent variables and descrip-

tive analysis of samples [23]. The single sample K - S test method was chosen, but after testing, it was found that neither group of samples showed normal distribution characteristics. Therefore, adjust to a non parametric testing strategy. Kruskal Wallis H test was conducted for seven variables including title sentence structure, content, and production category; For the nine variables of carrying topics and cover design, Mann Whitney U test was used to

explore their potential impact on the dependent variable.

4.1 The Influence of Independent Variables on the C-index

The non parametric test method in SPSS software was used to examine the significant impact of 12 independent variables, including title sentence structure, carried topic, content theme, production category, background music, subtitle setting, video duration, publishing time, cover production, comment interaction, top setting, and collec-

tion setting, on the C-index. The test results are shown in Table 2. As shown in Table 3, the significant p-values for subtitle setting, cover production, comment interaction, and top setting are 0.818, 0.288, 0.147, and 0.432, respectively, which are far greater than 0.05, indicating that the independent variable sample did not show significant differences in the C-index; The significant p-values of 8 independent variables are all less than 0.05, indicating that these independent variable samples exhibit significant differences in the C-index.

Table 2. Non parametric test results of independent variables and C-index

	Rank average					Asymptotic significance p-value				
	1	2	3	4	5	6	7	8	9	
Title sentence structure	331.361	235.46	897.946							0.000
Carrying topics	585.16	262.05								0.005
subject matter of text	408.317	348.434	247.026	3931.748	422.163	405.905				0.014
Category of production	1097.475	338.744	426.315	2097.455						0.818
Background Music	385.377	872.313	201.597	614.383	492.359	6568.821	235.46	382.675	219.331	0.000
Subtitle settings	405.905	642.948								0.288
Video duration	422.159	336.03	8125.504							0.000
Release time	336.03	341.431	388.308	727.532	821.263					0.012
cover design	469.033	334.865								0.147
Comment interaction	336.03	655.157								0.019
Top setting	1009.962	422.159								0.432
Collection settings	1171.968	385.377								0.000

4.2 The Influence of Independent Variables on DCI Index

dependent variables of Big V and Community Marketing using the same method are shown in Table 3.

The significance levels of the DCI index for the two in-

Table 3. Non parametric test results of independent variables and DCI index

	Rank average		Progressive significance P-value
	1	2	
Big V	1210.62	960.73	0.000**
social marketing	1071.1	890.65	0.000**

As shown in Table 4, the significant P-values of Big V and community marketing are both less than 0.01, indicating a significant difference in the DCI index between these two independent variable samples.

5. Discussion and Suggestions

5.1 Discussion of Non-Significant Impact Results

According to the above research results, four influencing factors including subtitle setting, cover production, comment interaction, and top setting have a non significant impact on the C-index.

5.2 Discussion on Significant Impact Results

The above research results indicate that eight influencing factors, including title sentence structure, carrying topic, content theme, production category, background music, video duration, publishing time, and collection setting, have a significant impact on the dependent variable index.

5.2.1 Title sentence structure

From the research results, it can be seen that interrogative and exclamatory sentences have better marketing effects than declarative sentences Huang Xianjun once proposed that the use of interrogative and exclamatory sentences on new media platforms has significantly increased, and the dissemination effect of such titles is better [15]. Interrogative sentences can stimulate readers' curiosity and thinking, while exclamatory sentences resonate with readers by expressing strong emotions. For example, the question titles released by Hubei Culture and Tourism to attract consumers, stimulate viewers' curiosity and attention, and stimulate their interest in related content.

5.2.2 Carrying topics

Carrying topic tags can drive interaction and participation among the target audience. From the research results, it can be seen that short videos with topic tags can stimulate more likes, comments, and shares. For example, hashtags such as "This crayfish is so fragrant" and "Qianjiang crayfish is popular all over the world" carried by Hubei Culture and Tourism not only increase the exposure, likes, and comments of the video, but also strengthen the stickiness between the local area and this characteristic agricultural product, and enhance the local visibility.

5.2.3 Content theme

The marketing effect of food production, food exploration, and interesting life stories is the best. Short videos of food production can showcase the production process of agricultural products and the connotation of food culture,

bringing a lot of traffic. Food exploration short videos capture rural life and unique cuisine, arousing viewers' homesickness and providing new channels for agricultural product sales [16]. Videos featuring interesting life stories showcase unique rural customs, which can attract the audience's attention and increase the attractiveness of the product [17]. This type of characteristic agricultural product short video marketing can increase the traffic of short videos, so the marketing effect is excellent!

5.2.4 Production category

The marketing effect of official explanations and animation editing is very good. Animation editing, as a combination of creativity and technology, can showcase the characteristics and advantages of agricultural products in a more vivid and interesting way, thereby attracting more audience attention and interest [18]. This type of short video can provide positive emotional resonance for consumers, thereby enhancing their willingness to purchase.

5.2.5 Background music

The role of popular background music should not be underestimated, as it can stimulate the audience's emotions, increase the fun and desire to watch videos. Research has shown that the rhythm of background music has a significant impact on customer citizenship behavior tendencies [19]. Dynamic music can effectively enhance the attractiveness and dissemination effect of videos, increase audience emotional resonance and participation, and thus promote purchasing behavior.

5.2.6 Video duration

A video duration of less than one and a half minutes in short videos of characteristic agricultural products can bring better marketing effects, and a video duration of less than one and a half minutes can help maintain audience attention and improve marketing effectiveness.

5.2.7 Release time

According to the survey results, the viewing habits and interactive behaviors of users on short video platforms are more active at night (18:00-23:59), especially on Today's Headlines platform, where users are more inclined to watch short videos during this time period.

5.2.8 Collection settings

The collection setting allows for centralized viewing of all short videos in this series, which is beneficial for enhancing the systematic marketing of characteristic agricultural product short videos, and the prominent display position can effectively increase consumer awareness and purchase intention.

5.3 Suggestion

5.3.1 Strengthen innovation and diversity in short video content

Short video content needs to be innovative and attractive, avoiding the problem of content homogenization. The richness and educational value of the video can be enhanced by showcasing various aspects such as lobster production videos, lobster farming processes, cultural backgrounds, and more. Ruifang Cui once proposed to enhance the brand experience of the audience through carefully designed experiential elements such as visual stimulation, emotional resonance [20]. For example, creating high-quality cooking tutorial videos that showcase the cooking techniques and unique flavors of Qianjiang lobster, while incorporating real-life anecdotes to increase emotional connections.

5.3.2 Utilize the influence of opinion leaders and internet celebrities

Collaborating with influential local internet celebrities and KOLs in the food industry to livestream sales can effectively expand the influence and coverage of Qianjiang lobster. In terms of cooperation mode, a strategy of using a single “big” KOL or multiple small KOLs can be adopted. Depending on the budget, companies can choose to hire only one large KOL with a large number of followers, or hire multiple small KOLs when the budget is sufficient. Large KOLs can reach a wider audience, while small KOLs are more effective in increasing audience conversion rates [21].

5.3.3 Consumer participation and interaction

According to research on social media marketing, frequent updates and increased interaction in the comment section can significantly increase consumer engagement. Qianjiang Lobster can also attract and maintain user interest by regularly releasing new short video content and setting up interactive segments. Chingching Chang proposed in his research that brand videos should stimulate consumers’ personal growth and sense of self-actualization [22]. Interactive activities can be conducted through short video platforms, such as online cooking competitions, user generated content competitions, etc., to encourage users to share their experiences or cooking methods of Qianjiang lobster consumption, thereby enhancing the brand’s sense of community and user loyalty.

6. Conclusion

This study found through empirical analysis that four influencing factors, namely subtitle setting, cover pro-

duction, comment interaction, and top setting, had a non significant impact on the C-index, while eight influencing factors, including title sentence structure, topic, content theme, production category, background music, video duration, release time, and collection setting, had a significant impact on the dependent variable index. The characteristic agricultural product of Qianjiang crayfish should strengthen the innovation and diversity of short video content, and then use opinion leaders and internet celebrity effects to promote and advertise the characteristic agricultural product, allowing consumers to participate and interact more. Due to time and resource limitations, the sample of short videos selected in the study is relatively small, and the marketing effect is mainly calculated from surface indicators such as video views, likes, and comments. Although these indicators to some extent reflect the influence and dissemination power of short videos, they may not be able to comprehensively and accurately evaluate the actual sales growth, brand awareness enhancement, and other deeper marketing effects of Qianjiang crayfish. Future research can conduct in-depth exploration and analysis of other factors in the consumer purchasing decision-making process, such as product quality perception, brand trust, and purchasing convenience.

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