Analysis of the Impact of Interactive Marketing Characteristics on Users' Perceived Attributes in Mobile Live e-Commerce Based on SPSS

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Abstract: The interactive marketing activity carried out by live e-commerce through the mobile terminal is a new e-commerce marketing form in recent years, which plays an important role in improving the commodity conversion rate and retaining users. In order to promote the development of live broadcast e-commerce, this paper uses professional computer analysis software such as SPSS to analyze and study the relationship between different interactive marketing types and user perception attributes according to the interactive marketing characteristics of live broadcast e-commerce. In this study, we comprehensively collected relevant data and statistically analyzed the big data, so as to help mobile e-commerce more accurately grasp the impact of various interactive marketing types of live e-commerce on the perceived attributes of actual users, so as to optimize the live marketing mode. It is found that different live interactive marketing types, manifestations and involvement will have a great impact on users' perceived attributes.

1 INTRODUCTION

Interactive marketing is an important feature of mobile terminal live-streaming e-commerce, which will have an important impact on users' perception attributes. In order to further improve the user experience of live streaming e-commerce, better capture users and improve commodity conversion rate, it is necessary to conduct in-depth research on the relationship between different interactive marketing types of live streaming e-commerce and user perception attributes. This paper adopted the questionnaire form in the data collection, and through the SPSS data analysis software to likert the data in the table of descriptive statistics, independent sample test and correlation analysis, in order to accurately grasp live electric interactive marketing characteristics and user attributes, the connection between the perception of live electrical contractor to improve the way of marketing, improve user retention to provide reliable reference basis, so as to promote the healthy development of China's live streaming e-commerce industry.

2 CHARACTERISTICS OF LIVE STREAMING E-COMMERCE INTERACTIVE MARKETING AND USER PERCEPTION ATTRIBUTES

2.1 Overview of the Basic Meaning of Mobile Terminal Live Streaming e-Commerce

In recent years, China's e-commerce industry has developed rapidly. Meanwhile, with the continuous promotion and application of mobile information technology, live streaming e-commerce, which organically combines e-commerce and live broadcasting through mobile terminals, has developed rapidly in recent years. Mobile terminal live broadcasting e-commerce integrates text, image, sound and other elements, effectively improving the interaction, real-time and scene of marketing acquisition, and can provide users with multi-dimensional product information and perfect service functions, which plays a very important role in improving user experience and user conversion rate. Therefore, it has gradually become one of the main

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Table 1: Describe statistical user perception attributes influenced by interactive marketing type factors.

	Type	N	Mean value	Standard deviation	Standard deviation mean
User attitudes	Reward type	125	3.189	1.212	0.084
	Functional	125	2.079	1.048	0.073
User experience	Reward type	125	2.748	1.084	0.075
	Functional	125	2.445	0.9185	0.064

trends in the development of e-commerce in China (Cai, 2020). Interactive marketing of live streaming e-commerce mainly includes functional, rewarding and game-type. At the same time, its manifestations are also rich. In order to further improve the effect of interactive marketing, it is necessary to accurately grasp the relationship between user perception attributes and involvement degree and interactive marketing characteristics.

2.2 Collection of Data and Application of Data Analysis Methods

This paper adopts the form of questionnaire in the data collection, and designs the questionnaire as Likert scale to evaluate the impact of the types and manifestations of interactive marketing on user perception attributes such as user experience and user attitude through scoring, and to explore the regulatory effect of user involvement on user perception attributes and interactive marketing (Fan, 2018). In data analysis, SPSS data analysis software is mainly used to carry out descriptive statistics, t-test and correlation analysis on the data information obtained in the questionnaire survey, so as to accurately grasp the relationship between interactive marketing characteristics and user perception attributes in mobile live e-commerce.

3 ANALYSIS ON THE INFLUENCE OF INTERACTIVE MARKETING CHARACTERISTICS ON USER PERCEPTION ATTRIBUTES IN MOBILE TERMINAL LIVE STREAMING E-COMMERCE

3.1 Statistically Analyze the Correlation between User Perception Types and Different Interactive Marketing Types of Live Streaming e-Commerce

SPSS software was used to conduct descriptive statistics and independent sample T-test on the data obtained from the questionnaire to analyze the relationship between user perception attributes such as user experience and user attitude and interactive marketing types of mobile live e-commerce. The descriptive statistical results are shown in Table 1.

According to the results of descriptive statistics and independent sample T-test, the functional type of live e-commerce interactive marketing is significantly lower than that of reward in terms of average score of user experience, and the difference between the two groups is about 0.025, with uneven characteristics. The statistical value of T is about -3.07, while the value of P is about 0.02. According to the statistical analysis results of data, the types of interactive marketing have a direct impact on user experience, and the reward type of interactive marketing has a greater impact on user experience than the functional type. At the same time, the average score of the reward type of interactive influence on the influence of user attitude is also significantly higher, and its significance P value is about 0.03, and the difference between the two groups is uneven (Jin, 2018). And in the T-test, the T-statistic value is about -4.33, while its P-value is 0. According to the data statistical analysis results, the user attitude will be affected by interactive marketing type of marketing, and compared with the functional type of interactive marketing, the reward type of interactive marketing will have a more significant impact on the user attitude. Through analyzing the above description result, the user experience and user attitude user perception attribute will be broadcast live electricity marketing, interactive marketing type factors and different types of interactive marketing in the aspect of user perception attribute influence degree, the influence degree of the reward type is bigger, so in the marketing strategy should choose to reward type of interactive marketing on the way.

3.2 The Correlation between User Perception Types and Different Interactive Marketing Forms of Live Streaming e-Commerce Was Statistically Analyzed

3.2.1 Analysis of the Relationship Between User Perception Types and Different Scene Locations of Live e-Commerce Interactive Marketing

Descriptive statistics and T test were conducted on the questionnaire data by using SPSS software. According to the statistical analysis results, in the interactive marketing functional type, the average line of the strong information location in terms of user experience is lower than the weak information location, and the difference between the two groups of p-value is about 0.96, showing uneven characteristics. However, in the independent sample T-test, the T-statistic value is above 1, and the P-value is about 0.32, which indicates that there is no obvious correlation between user experience and scene location in this type of interactive marketing. In the reward type of interactive marketing, the average score of the position of strong and weak information in the aspect of user experience is relatively close, but the difference between the two groups of P value is still about 0.3, uneven. In the T-test, the calculated T-statistic value is above 0.06, while the P-value is 0.95, indicating that there is no obvious connection between the user experience and the scene location in this interactive marketing type. At the same time, through the analysis of the impact of scene location on user attitude, it can be seen that in the functional types of interactive marketing, the average score of strong information location in user attitude is lower than that of weak information location, P value is about 0.44, the difference between the two groups is not uniform. Moreover, the P value and T statistic value in the independent sample T-test are 0.316 and 1.005 respectively, which indicates that the user experience is not significantly affected by the scene location factor in the functional type of interactive marketing. However, in the interactive marketing reward type, the average score of strong and weak information position in the user attitude is relatively close, and the P value is about 0.78, the difference between the two groups is uneven. The t-statistic value and P-value obtained in the independent sample T-test are 0.46 and 0.646 respectively. According to the statistical analysis results of the above data, it can be seen that in the rewarding interactive marketing, the user experience is not significantly marketing by the scene location factor, so the scene location factor does not directly affect the user attitude.

3.2.2 Statistical Analysis of the Relationship between User Perception Types and Guiding Effect of Live e-Commerce Interactive Marketing Information

According to the descriptive statistics and T test of the questionnaire survey data, in the functional type of interactive marketing, the average score of user experience under the condition of information guidance is higher than that under the condition of no information guidance, and the difference between the two groups is about 0.013, showing uneven characteristics. In the independent sample T test, P value and T statistic value are 0.043 and -1.466, respectively. According to the above data, the statistical test results show that in the functional types of interactive marketing, user experience will be affected by whether there is information guidance condition. In the reward type of interactive marketing, the average score of user experience in the condition of information guidance is also higher than that in the condition of no information guidance, and the difference between the two groups is 0.028, which is still inconsistent. In the independent sample T-test, the P value and T statistic value are 0.032 and -1.595 respectively, which indicates that the user experience in the rewarding type of interactive marketing will be significantly affected by information guiding factors. At the same time, under the condition of information guidance, the average score of functional interactive marketing in user attitude is higher than that under the condition of no information guidance. The P value of the square difference between the two groups is about 0.168 and presents an uneven feature. In the independent sample T-test, the P value and T statistics were 0.001 and -3.505, respectively. According to the analysis results of the data, the user attitude is influenced by the information guiding factors in the functional types of interactive marketing, and the user attitude is better when the interactive marketing is guided by information. In the reward type of interactive marketing, the attitude of users with information guidance is also higher than that without information guidance. The P value of the two groups is 0.215, and the variance is not uniform. The t-statistic value and p-value of the independent sample T-test are -3.724 and 0.001 respectively, which indicates that the user attitude in the reward type of interactive marketing is also significantly affected by information guiding factors, and whether

there is information guiding conditions will have different degrees of influence on the user attitude.

3.2.3 Statistical Analysis of the Relationship between User Perception Types and the Number of Live e-Commerce Interactive Marketing

Descriptive statistics and independent sample T-test were conducted on the data obtained in the questionnaire by using SPSS software to analyze the correlation between user perception attributes and the amount of interactive marketing. The descriptive statistical results are shown in Table 2.

In the functional types of interactive marketing, the average score of user experience of multiple quantities is lower than that of single quantities, and the P value of the difference between the two groups is 0.758, showing uneven characteristics. In the independent sample T-test, the significance of P value and T statistical value are 0.001 and 3.352 respectively, indicating that the user experience in the functional types of interactive marketing will be significantly affected by quantitative factors. According to the descriptive statistics and T test of the questionnaire survey data, it can be seen that in the reward type of interactive marketing, the average score of user experience of multiple quantities is lower than that of single quantity, and the P value of the difference between the two groups is about 0.077, showing uneven characteristics. In the independent sample T test, P value and T statistic value are 0 and 5.117 respectively. According to the statistical test results of the above data, it is shown that in the reward type of interactive marketing, user experience will be affected by quantitative factors, and the degree of influence is closely related to the number. At the same time, under multiple quantitative conditions, the functional types of interactive marketing have lower average scores on user attitudes than the single quantitative conditions. The P value of the square difference between the two groups is about 0.463, showing an uneven feature. In the independent sample T-test, the P value and T statistics were 0.29 and 1.062, respectively. According to the data analysis results, the user attitude is not affected by quantitative factors in the functional types of interactive marketing, and there is no significant correlation between the changes in the number of interactive marketing and user attitude. However, in the interactive marketing reward type, the average score of user attitude under the condition of multiple quantities is also lower than the single quantity, the P value of the two groups is 0.303, and the variance is not uniform. The t-statistic value and p-value in the independent sample T-test are 3.9914 and 0 respectively, which indicates that the user attitude in the reward type of interactive marketing will be significantly affected by the quantity factor, and the quantity will have different degrees of influence on the user attitude.

3.3 The Correlation between the Types of Live e-Commerce Interactive Marketing and Users' Perceived Experience and Involvement Degree Was Statistically Analyzed

In the interactive marketing of live streaming e-commerce on mobile terminals, the attributes of user perception and the types and forms of interactive marketing are all affected by the involvement factor. In order to scientifically analyze the specific regulating effect of users' involvement degree, calculate the average score according to the data in the involvement degree scale, and transform the involvement degree based on the mean value, it is the transformation of variables from continuous type to classified type. If the calculated result of sample involvement degree is lower than the average time, it can be regarded as low involvement degree. On the contrary, the involvement degree reaching the average score or above can be regarded as high

Table 2: Description of statistical user perception attributes influenced by interactive marketing quantitative factors.

	Type	quantity	N	Mean value	Standard deviation	Standard deviation mean
User attitudes	Reward type	Single	125	3.567	1.208	0.119
		Multiple	125	2.920	1.128	0.111
	Functional	Single	125	2.786	1.073	0.105
		Multiple	125	2.631	1.022	0.100
User experience	Reward type	Single	125	3.102	1.140	0.112
		Multiple	125	2.362	0.936	0.092
	Functional	Single	125	2.654	0.910	0.089
		Multiple	125	2.237	0.883	0.087

involvement degree, so as to analyze the influence degree of involvement degree. According to calculation and analysis, there are 76 groups of low involvement samples and 49 groups of high involvement samples in the sample data.

3.3.1 Analysis of the Relationship between User Perceived Experience and Type and Involvement Degree of Live-Streaming e-Commerce Interactive Marketing

Through the calculation and analysis of the data of the involvement scale, it can be found that under the condition of high involvement, the functional type of interactive marketing has a higher average score of user perception attributes than the reward type, and the difference between the two groups is 0.003, showing an uneven feature. In the independent sample T-test, the calculated results of t-statistic value and p-value significance are -2.703 and 0.007 respectively, indicating that different types of interactive marketing have different user perception attributes, and the functional types of interactive marketing will have a more significant impact on user perception attributes under the condition of high involvement (Wang, 2020). Under the condition of low involvement, the average score of user perception attributes of functional types of interactive marketing is lower than that of rewards, and the difference between the two groups is 0.703, which is still uneven. In the independent sample T-test, the calculated results of t-statistic value and p-value significance are 0.195 and 0.048, respectively, indicating that different types of interactive marketing have different user perception attributes, and the reward type of interactive marketing will have a more significant impact on user perception attributes under the condition of low involvement.

3.3.2 Analysis of the Relationship between User Perceived Experience and the Interactive Form of Live Streaming e-Commerce and the Involvement Degree

When analyzing the relationship between user perception attributes, manifestation forms of interactive marketing and involvement degree, SPSS data analysis software should be used to carry out correlation statistical analysis on user perception attributes such as different scene location, information guidance, user experience and user attitude under the condition of quantity. According to the statistical analysis results, the P values of scene location factors and information guidance factors of user attitude, user experience and user perception attributes are all above 0.05 under the condition of high user involvement, indicating that there is no obvious correlation between the three factors and scene location factors and information guidance. Under the condition of high user involvement, the correlation between user attitude, user experience and user perception attributes and the amount of interactive marketing is negatively correlated, and the correlation between user attitude, user experience and user perception attributes is -0.271, -0.421 and -0.382, respectively. It indicates that the increase of the number will reduce the perceived attributes, attitudes and experience values of users. At the same time, according to the correlation statistical analysis results, the P-values of the scene location factors and information guidance factors of user perception attributes, user experience and user attitude are all above 0.05 under the condition of low user involvement, indicating that there is no obvious correlation between the three factors and scene location factors and information guidance (Jiang, 2020). However, under the condition of low user involvement, the correlation between user experience and the amount of interactive marketing is negatively correlated, and its P value is only 0.027 within the range of 0.05, indicating that when the amount of interactive marketing increases, the value of user experience decreases. However, the correlation P value between the quantity and user's attitude and user's perception attributes is above 0.05, indicating that there is no significant correlation between the quantity and user's perception attributes and attitude.

4 CONCLUSION

Through professional data analysis software SPSS for statistical analysis of large data can be found that the mobile end live electrical contractor in the different types of interactive marketing, form the characteristics of user perception attribute will have varying degrees of impact, at the same time different involvement degree will also characteristics of interactive marketing and regulation of user perception attribute to produce different effect. Mobile terminal, therefore, live electrical contractor should be interactive marketing features and user experience perception between the objective laws, and choose the type of interactive marketing data analysis results, and the interactive marketing form the corresponding adjustment, to achieve the purpose

of improve product conversion rate and retain users, so as to improve the marketing effect and promote the development of live broadcast e-commerce in China.

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