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The Impact of Internet Celebrity Economy on Shopping Decision-making from the Perspective of Attention Economy: An Empirical Study on Fast-moving Consumer Goods

Jinchi Huang[1,a,*], Zhongyue Hu[1]

[1]*Guizhou University, 2708 Huaxi Avenue South Section, Huaxi District, Guiyang, Guizhou, 550025, China*
a. jchuang_bell@163.com
**corresponding author*

Abstract: Facing the increasing consumer purchasing power and diverse range of products available, matching the supply side with the demand side has become a pressing issue in the contemporary consumer market. In this context, the phenomenon of internet celebrity economy has emerged and flourished. This study takes the fast-moving consumer goods industry as an example and applies data analysis methods to investigate the impact of the internet celebrity economy on shopping decision-making from the perspective of attention economy. The following conclusions are drawn: First, based on descriptive statistics, this study identifies three key factors for the effectiveness of the internet celebrity economy, namely, expanding promotional coverage, utilizing the bandwagon effect, and broadening communication and commenting channels. Second, using weighted analysis, this study evaluates the key factors influencing shopping decision-making and highlights the importance of "user scenarios." Third, through K-Means cluster analysis, this study categorizes consumers on internet celebrity platforms into four groups: active consumers, conservative consumers, mass consumers, and elite consumers. Finally, using the fast-moving consumer goods industry as an example, this article provides relevant recommendations from the perspectives of platforms, merchants, and internet celebrity bloggers.

Keywords: Internet celebrity economy, attention economy, shopping decision-making

1. Introduction

1.1. Research Background

In today's booming internet era, the internet celebrity economy has become a hot topic in consumption. The essence of promoting shopping consumption through internet celebrity platforms is an extension of attention economy. The internet celebrity marketing model relies on individual internet celebrities who use unique opinions or hot events to create influence and attract fans. [1]Currently, the internet celebrity economy has shifted from focusing on user traffic to focusing on user quality. [2]Therefore, this paper takes fast-moving consumer goods as an example to explore the

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influence of the internet celebrity economy on shopping decisions from the perspective of attention economy, and propose relevant suggestions.

1.2. Research Objectives

(1) Sort out the aspects of the influence of the internet celebrity economy on shopping decisions and compare the differences between different influencing factors.

(2) Evaluate the key links that influence shopping decisions.

(3) Extract the commonalities of internet celebrity economy consumers based on their characteristics and classify them into different groups.

(4) Analyze the considerations for promoting the internet celebrity economy in the context of fast-moving consumer goods and propose relevant suggestions.

2. Research Overview

2.1. Sampling Design and Survey Process

(1) Adopt a three-stage sampling method for population. Take the internet celebrity economy in the fast-moving consumer goods industry as the positioning range, with the first-level unit as the internet celebrity economy platform, the second-level unit as age stratification, and the third-level unit as individual users, making the sample both universal and specific.

(2) Use the "three-in-one" model to create the questionnaire. According to the survey logic, the questionnaire design is divided into three macro parts: information classification section, objective answering section, and subjective answering section.

(3) Conduct pre-survey through quota sampling with cross-control. A total of 600 questionnaires were distributed in this survey, and 569 were collected. According to the sample size formula, the effective response rate of the questionnaire is 94.2%, indicating good reliability and validity.

(4) Formal survey and expanded research complement each other. The formal survey is conducted in the form of questionnaires, while the expanded research is conducted through interviews and field visits.

2.2. Data Processing and Analysis Methods

This paper comprehensively uses data processing and analysis tools such as SPSSPRO and NVivo. The specific contents are as follows:

(1) Descriptive statistics, applied to the analysis of the influence of internet celebrity platforms on shopping decisions.

(2) Weight analysis, applied to the evaluation of key links that influence shopping decisions.

(3) K-Means clustering analysis, applied to reflect the characteristics and grouping of consumer groups on internet celebrity platforms.

3. Sampling Design and Pre-Survey

Before the formal survey, a pre-survey was conducted using quota sampling with cross-control for the characteristics of "age stratification" and the sub-population to which it belongs. The main purpose was to calculate the effective response rate of the questionnaire and test its reliability.

3.1. Sample Size Calculation

The formula for calculating the sample size is:

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$$n = \frac{\sum_{h=1}^{L} W_h P_h Q_h}{\left(\frac{rP}{u_{\alpha/2}}\right)^2 + \frac{1}{N}\sum_{h=1}^{L} W_h P_h Q_h}$$

Where, P represents the proportion of Chinese netizens in the total population in 2022, P = 75.07% (data source: "Statistical Report on Internet Development in China 2022" by China Internet Network Information Center). Calculations show that the effective number of responses is 536, and the effective response rate is 94.2%, which is relatively high.

3.2. Reliability Analysis

To test the reliability of the questionnaire, a single-choice question "Do you agree with the view that 'internet celebrity platforms can stimulate consumers to make shopping decisions?'" was designed in the questionnaire. Referring to the Likert five-point scale, the options were set as "strongly agree," "agree," "neutral," "disagree," and "strongly disagree," respectively coded as 5, 4, 3, 2, 1.

Table 1: Reliability Analysis Cronbach's α Coefficient Table

Cronbach's α coefficient	Standardized Cronbach's α coefficient
0.841	0.848

The Cronbach's α coefficient value of the model is 0.841, indicating good reliability of the questionnaire.

Table 2: Summary of Item Deletion Analysis

	Average value after item deletion	Variance after item deletion	Correlation between the deleted item and the remaining scale	Cronbach's α coefficient after item deletion
Z1	49.455	12.091	0.527	0.838
Z2	49.483	12.127	0.482	0.844

The overall correlation (CITC) and the α coefficient after deleting items Z1 and Z2 both show positive performance, suggesting that there is no need for any modification of the scale items. Therefore, the questionnaire is considered to have high reliability.

4. Data Analysis and Research Findings

4.1. Descriptive Statistics: Analysis on the Influence of Influencer Platforms on Shopping Decisions

Descriptive statistics were used to effectively extract the aspects and respective weights of the influence of influencer platforms on shopping decisions.

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Table 3: Summary of Descriptive Statistics Results

Variable Name	Maximum	Minimum	Mean	Standard Deviation	Median	Variance	Coefficient of Variation
Price	9	5	7.286	1.38	8	1.905	0.189
Degree of Specialization	9	6	7.571	1.272	8	1.619	0.168
Coverage of Promotion	8	6	7.143	0.9	7	0.81	0.125
Bandwagon Effect	9	6	8.143	1.215	9	1.476	0.149
After-sales Guarantee	8	5	6.429	1.272	6	1.619	0.197
Review Channels	9	7	8.286	0.951	9	0.905	0.114

Based on the coefficient of variation (CV) of 0.189 for the variable "Price," which is greater than 0.15, it indicates significant data fluctuations. Therefore, it cannot represent the current situation of the majority of influencer platforms. This suggests that the influence of "Influencer Platforms on Price" on shopping decisions is relatively small. Similarly, the effects of "Influencer Platforms on Degree of Specialization" and "Influencer Platforms on After-sales Guarantee" on shopping decisions are also relatively small.

On the other hand, based on the coefficient of variation (CV) of 0.126 for the variable "Coverage of Promotion," which is less than 0.15, it indicates minimal data fluctuations. This implies that it can represent the current situation of the majority of influencer platforms. Thus, the influence of "Influencer Platforms on Coverage of Promotion" plays a significant role in shopping decisions. Similarly, the effects of "Influencer Platforms on Celebrity Effect/Bandwagon Effect" and "Influencer Platforms on Review Channels" also have a significant impact on shopping decisions.

4.2. Weight Analysis: Evaluation of Key Elements Influencing Shopping Decisions

In summary, the key elements influencing shopping decisions include user scenarios, purchase paths, psychological factors, and product attributes. In order to assess these four key elements, a weight analysis method is employed.

Table 4: Output Table of Weight Analysis Results

Entropy Weight Method (Weight Analysis) for Key Elements of Shopping Decisions			
Item	Information Entropy Value (e)	Information Utility Value (d)	Weight (%)
Purchase Psychology	0.981	0.019	21.575
User Scenarios	0.972	0.028	31.294
Product Attributes	0.982	0.018	20.177
Purchase Path	0.976	0.024	26.954

Weight analysis is used to calculate the weights (importance) of each variable. It is evident that among the four elements, namely, Purchase Psychology, User Scenarios, Product Attributes, and Purchase Path, User Scenarios have the highest proportion of importance (31.294%). The main reason for this is that influencer platforms create a favorable user scenario through methods such as trial experiences and innovative development of mini-programs, thereby providing consumers with a unique consumption environment.

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4.3. K-Means Cluster Analysis: Extracting Characteristics of Consumer Groups on Influencer Platforms and Grouping

To position the population using influencer platforms and provide more specific recommendations, a representative sample group (n=80) is classified into four different groups based on the characteristics of "Shopping Expenditure (per person/per year)," "Age," "Education," and "Gender."

Table 5: Output Table of Cluster Categories

Note: ***, **, * represent significance levels of 1%, 5%, and 10% respectively; P represents significance value.

	Cluster Category (Mean ± Standard Deviation)				P
	Category3(n=26)	Category1(n=22)	Category2(n=19)	Category4(n=13)	
Shopping Expenditure	13611.852 ±1229.491	17845.316 ±1220.451	5149.791 ±1216.497	9323.221 ±1226.543	0.000
Age	38.325±15.355	38.183±15.149	38.213±15.155	38.069±15.473	0.949
Education	2.98±1.401	3.006±1.405	3.032±1.437	3.037±1.422	0.451
Gender	1.541±0.498	1.542±0.498	1.546±0.498	1.543±0.498	0.984

The results of the analysis of variance show that for the variable "Shopping Expenditure," the significance level (P-value) is 0.000***, indicating a significant difference among the clusters. This suggests that the amount of shopping expenditure significantly influences the classification of cluster categories. This finding not only confirms the economic principle that "income is the most direct factor affecting consumption," but also highlights the importance for influencer platforms to prioritize disposable income (purchasing power) when grouping users based on their characteristics.

Based on the different characteristics of the sampled population in terms of age, gender, consumption level, and education, they can be grouped into the following four clusters through K-Means cluster analysis:

Cluster Category 1 (Active Consumers): Mostly young individuals (18-25 years old) with higher daily consumption levels (standard for daily necessities >= 8000 yuan/person/year), predominantly university or high school education, and a higher proportion of females (71%).

Cluster Category 2 (Conservative Consumers): Consisting of teenagers (below 18 years old) and older adults (55 years old and above), with lower daily consumption levels (standard for daily necessities <= 4000 yuan/person/year), no clear pattern in education, and balanced gender ratio.

Cluster Category 3 (General Consumers): Age distribution is broad (ranging from 18 to 55 years old), with consistent daily consumption levels (8000 yuan/person/year >= standard for daily necessities >= 4000 yuan/person/year), no clear pattern in education, and balanced gender ratio.

Cluster Category 4 (Elite Consumers): Mostly composed of young and middle-aged adults (30-49 years old) with very high daily consumption levels (standard for daily necessities >= 8000 yuan/person/year), predominantly university education or higher, and balanced gender ratio.

Table 6: Cluster Classification Table

Cluster Category	Frequency	Percentage (%)
Cluster Category 1 (Active Consumers)	22	27.5
Cluster Category 2 (Conservative Consumers)	19	23.75
Cluster Category 3 (General Consumers)	26	32.5
Cluster Category 4 (Elite Consumers)	13	16.25
Total	80	100.0

The clustering analysis was tested using the silhouette coefficient, and the results are as follows:

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Table 7: Silhouette Coefficient Test Table

Silhouette Coefficient	DBI	CH
0.571	0.504	50029.532

Based on the silhouette coefficient analysis, it can be confirmed that the clustering analysis has produced good results.

5. Recommendations and Strategies

5.1. Platform Perspective

Firstly, promote standardized operations on the platform. Enhance the awareness of platform management personnel in reviewing content and promptly resist and restrict excessive capital marketing.

Secondly, explore the value of interaction. Attention acquisition can be divided into three stages: utilizing content to capture attention, using interaction to increase fan engagement, and utilizing cross-platform strategies to expand the reach of attention. [3]Under this logic, platforms should create more opportunities for information interaction, allowing users to actively discuss products driven by social interactions and uncover the value of user engagement.

5.2. Merchant Perspective

Firstly, adjust product prices to stimulate purchase desire. Attention economy is a new form of economy based on the production, processing, distribution, exchange, and consumption of attention. [4]Therefore, when arranging price settings, it is advisable to consider breaking them down into smaller units to attract customers' attention.

Secondly, carefully select platforms and build a good reputation. When merchants choose influencer platforms, they should conduct certain investigations into the platform's reputation and image.

5.3. Influencer Perspective

Firstly, implement differentiated marketing. Influencers establish personalized online identities and continuously create generated content. [5]In order to stand out in the vast competitive market, it is necessary to transform selling points into consumer topics, accurately target specific user groups, and promote distinctive and differentiated marketing.

Secondly, promote the consumer-friendly presentation of product descriptions. Overly technical product terminology may not be easily understood by the majority of consumers. Many product promotions often use "high-end terminology" for marketing purposes, but fail to provide consumers with a deeper understanding of the product's detailed content. Therefore, presenting product labels in a simplified and relatable manner helps consumers quickly grasp detailed information and make consumption decisions.

6. Conclusion

Based on the comprehensive research conducted, this paper draws the following main conclusions regarding the influence of influencer platforms on shopping decisions:

The impact of influencer platforms on "coverage of promotion," "celebrity/peer effects," and "communication channels for comments" is significant among various influencing factors. These factors play a major role in influencing shopping decisions.

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Through an assessment of the key aspects influencing shopping decisions, this paper highlights the importance of user scenarios, indicating that the influencer economy needs to focus on creating a comfortable and unique consumer environment for consumers.

Based on the analysis of consumer characteristics, the consumer groups on influencer platforms can be categorized as active consumers, conservative consumers, mass consumers, and elite consumers.

In order to promote the development of the influencer economy, various stakeholders should actively fulfill their roles: Platforms should standardize their operations and innovate social models; Businesses need to stimulate purchasing desires and build a good reputation; Influencers should engage in differentiated marketing to promote product integration into consumers' lives.

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