

A Study of Domestic Movies Marketing Strategies Based on the Big Data of the Films Microblog

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Abstract—With the development of our country's economic construction and the change of residents' consumption concept, the film market is getting more and more people's attention, and the industry competition is becoming more and more fierce. In the fierce competitive environment, the traditional marketing model has been left behind, the Chinese film is in urgent need of new marketing mode. In recent years, a lot of domestic films have achieved a substantial increase in the box office by microblog marketing, which makes people pay attention to the important position of microblog in the movie marketing. Study on the marketing strategy of microblog has an important reference value for improving the efficiency of film industry. Based on the collected sample data from Sina Weibo long-term practice, this paper constructs the factor analysis model and the hierarchical selection model of the domestic film microblog marketing, and according to different movie propaganda stage matching different strategies model Starting from the background of big data era. Finally, this paper verifies the rationality of these models through the example, in order to provide some theoretical reference and recommendations for the domestic film microblog marketing.

Keywords—big data; domestic film; microblog marketing; factor analysis; analytic hierarchy process

I. INTRODUCTION

E. Miles (2011) [1] analyzes the needs of social media for information retrieval by studying the user metadata and information interaction of Twitter on foreign microblogging platform, in order to analyze the function of social search and satisfy the microblog social information retrieval. demand. Hengchong Zhan (2011) [2] analyzed the different Weibo marketing of Twitter and China Sina Weibo, focusing on some

marketing status and achievements of Sina Weibo in China, and taking Dell, Kogi, BBQ and VANCL as examples. Demonstrate the benefits that Weibo marketing brings to the enterprise. Chris Matyszczyk (2009) [3] believes that good movie sales are related to special online marketing. Traditional film marketing is costly, but it can be easily achieved through social networking marketing methods, which are called online and social network marketing. Kang Yafei (2014) [4] further borrowed the theory of communication effects and used sample surveys to study the degree of influence of microblog marketing methods on the cognition, attitude and behavior of film audiences. Yao Rui (2011) [5] pointed out in the research that the popular discourse style is the most significant advantage summed up from Weibo itself. The fast and powerful propagating mode and speed are gradually formed in people's interaction. The identification mechanism will have a positive effect on users.

II. RESEARCH ON MARKETING STRATEGY OF DOMESTIC FILM WEIBO BASED ON FACTOR ANALYSIS MODEL

A. Selection of Research Objects and Data Sources

This paper selects the relevant microblog data of the top 100 domestic box-office films released after 2012 to participate in the evaluation. The following nine indicators were set to evaluate the impact factors of domestic film microblog marketing effects, and sample data of 100 domestic films were obtained. Due to the confidentiality of the data, the sample mean is used here to represent it. The results are shown in Table I:

B. Factor Analysis Model Establishment

In this paper, the SPSS software is used to analyze the sample data of 100 domestic films collected. The process is as follows.

Table II shows the KMO and Bartlett's test statistics table obtained by SPSS operation. The figure shows $KMO=0.755>0.5$, which indicates that it is suitable for factor analysis. In addition, the Bartlett spherical test statistic significance level test P value is 0, less than 0.05, so the factor analysis of the data is effective.

As can be seen from Table III, the first factor has a large load on the number of fans (X2), the number of topic discussions (X4), and the number of topic readings (X5), indicating that these three indicators can be classified into one class. The factor contributes 34.564% to the variance of all initial variables. The second factor has a large load on confidence (X6) and activity (X7) and can be grouped into a class that contributes 18.607% to the variance of all initial variables. The third factor has a large load on the propagation force (X8) and coverage (X9) and can be classified into one category, which contributes 15.921% to the variance of all initial variables. The fourth factor has a large load on the number of attention (X1) and the number of volatility (X3), which can be classified into one category, which contributes 13.812% to the variance of all initial variables. Therefore, 9 variables are classified into 4 categories.

Calculate the contribution rate of each principal factor variance as the total variance contribution rate of the four principal factors, as shown in the Table IV:

The regression method is used to estimate the factor score.

The weighted contribution rate of each principal factor is calculated by weighting the proportion of the total variance contribution rate of the four principal factors as the weight.

The obtained formula is:

$$F=0.4169F1+0.2244F2+0.1920F3+0.1666F4 \quad (1)$$

TABLE I. SAMPLE AVERAGE OF DOMESTIC FILM MICROBLOG MARKETING EFFECT INDEX

Number	Index	Mean Value Of 100 Movie Samples
X1	The number of followers	217.2274830
X2	The number of fans	77577.7087618
X3	The number of posts	1305.4797650
X4	The number of topic discussions	791904.9032751
X5	The number of topics read	709224385.3407314
X6	The credibility	593.0931452
X7	The activity	546.9006774
X8	The communication	492.4821194
X9	The coverage	317.8413714

TABLE II. TEST STATISTICS FOR BARTLETT AND KMO

Sampling enough Kaiser-Meyer-Olkin metrics		0.755
Bartlett's sphericity test	Approximate chi square	73.949
	df	36
	Sig.	0.000

TABLE III. ROTATING FACTOR LOAD MATRIX

	Ingredient			
	1	2	3	4
X1	0.091	-0.185	0.171	0.917
X2	0.89	0.048	-0.135	0.032
X3	-0.023	0.53	-0.395	0.668
X4	0.899	-0.324	-0.063	0.058
X5	0.886	-0.124	0.025	0.052
X6	-0.147	0.757	0.309	-0.259
X7	-0.139	0.769	0.073	-0.075
X8	-0.216	0.317	0.839	-0.164
X9	0.033	-0.044	0.88	0.304

TABLE IV. THE VARIANCE CONTRIBUTION RATE OF THE PRINCIPAL FACTOR ACCOUNTED FOR THE PROPORTION OF THE TOTAL VARIANCE CONTRIBUTION RATE

Main Factor Number	Variance Contribution Rate	The Proportion Of The Total Variance Contribution Rate Of The Four Main Factors
First factor	34.564%	0.4169
Second factor	18.607%	0.2244
Third factor	15.921%	0.1920
Fourth factor	13.812%	0.1666

III. DOMESTIC FILM MICROBLOG MARKETING STRATEGY LEVEL SELECTION MODEL

A. Questionnaire Design and Statistics

By distributing questionnaires to experts, the importance of different marketing objectives in the three propaganda stages of the pre-production stage, the middle stage of the film promotion, and the late stage of the film promotion are summarized, as well as the impact of different marketing strategies on marketing objectives.

Let A_{ij} score the j-th indicator for the i-th expert.

Then the $\sum_{i=1}^{20} A_{ij} / 20$ is the average score of the j-th indicator.

By performing a ratio analysis on the average scores of the various indicators, the relevant data can be obtained to provide a data reference for the hierarchical selection model.

B. Hierarchical Selection Model Establishment

This paper studies separately according to the pre-, mid-, and post-production of film propaganda, and summarizes the strategic models at different stages.

1) Develop a marketing strategy selection block diagram:

According to the domestic marketing microblog marketing strategy and marketing effect analysis, the block diagram of the tomographic analysis method is shown in Fig. 1:

Among them, the target layer A represents the domestic marketing microblog marketing strategy choice, the criterion layer H consists of strengthening the audience influence (H1), saving the declaration cost (H2), and improving the box office revenue (H3). The measure layer P is composed of fans and Top marketing (P1), word of mouth marketing (P2), public opinion leader marketing (P3), interactive marketing (P4) four marketing strategy factors.

Scale: 1 (also important), 3 (slightly important), 5 (significantly important), 7 (very important), 9 (extremely important) ($i: j = a_{ij}$), 2, 4, 6, 8 represent the middle Values $1/3, 1/5, 1/7, 1/9$ ($j:i=1/a_{ij}$)

2) Video promotion of microblog marketing strategy selection in different periods: In the early stage of film propaganda, we should set up a public opinion orientation to obtain attention. The construction judgment matrix at this stage is shown in Table V (for the calculation of AHP, a special AHP software-yaahp V6.0 is selected):

Table V reflects the judgment matrix of each indicator in the early stage of film promotion. In the early stage of the film promotion, it is more important to strengthen the audience influence (H1) than to save the cost of declaration (H2) and increase the box office income (H3). Under the goal of strengthening the audience's influence, $P1 > P3 > P2 > P4$, under the goal of saving the cost of propaganda, $P1 > P3 > P2 > P4$, under the goal of increasing box office revenue $P1 > P3 > P2 > P4$.

In the film pre-judgment matrix (A-H), (H1-P), (H2-P), (H3-P), the random consistency ratios are 0.0015, 0.0454, 0.044, and 0.0295, respectively, which are less than <0.1 . In the early stage of film promotion, the matrix (AH) shows that the weight of the audience influence (H1) is 68.7%, which is far greater than the cost of saving the declaration (H2) and increasing the box office revenue (H3); the matrix (H1-P) indicates the fans and The impact of topic marketing (P1) on the influence of the audience is 57.47%, which is much larger than the other three marketing strategies. The matrix (H2-P) shows that the influence of word-of-mouth marketing (P2) on the cost of saving the publicity is 54.63%. The weight of the other three marketing strategies; Matrix (H3-P) shows that Fan and Topic Marketing (P1) has a weighting effect on box office revenue of 49.49%, which is much larger than the weight of the other three marketing strategies.

Comprehensive evaluation: As shown in Table VI, the relative ranking results of the four strategies are that strategy 1 is A, strategy 3 is B, strategy 2 is C, and strategy 4 is D. Therefore, in the early stage of film promotion, more consideration should be given to adopting the first marketing

strategy, namely topic and fan marketing, guiding public opinion and gaining attention. In the same way, we get the total ranking of the middle and late levels of the film propaganda.

In summary, when choosing a Weibo marketing strategy, domestic movies should pay attention to different propaganda stages and adopt different strategy modes. The strategy mode that domestic films should mainly adopt in different propaganda stages is shown in Table VII:

IV. RESEARCH ON THE MICRO-BLOG MARKETING OF DOMESTIC MOVIES IN THE BIG DATA ERA—TAKING THE MOVIES "THE CONTINENT" AND "THE LEFT EAR" AS AN EXAMPLE

The block diagram of the tomographic analysis in this paper is shown in the Table VIII.

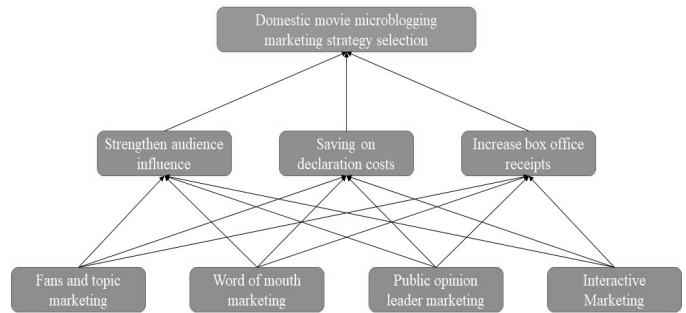


Fig. 1. Block Diagram of The Marketing Strategy of Domestic Film Microblog.

TABLE V. EARLY FILM PROMOTION JUDGMENT MATRIX

	A	H1	H2	H3	Mi	Di	
(A-H)matrix	H1	1	3	8	24	0.687	
	H2	1/3	1	3	1	0.2363	
	H3	1/8	1/3	1	1/24	0.0819	
(H1 - P)matrix	H1	P1	P2	P3	P4		
	P1	1	5	3	7	105	0.5747
	P2	1/5	1	1/3	2	2/15	0.1010
	P3	1/3	3	1	3	3	0.2539
(H2-P)matrix	P4	1/7	1/2	1/3	1	1/42	0.0705
	H2	P1	P2	P3	P4		
	P1	1	1/3	3	5	5	0.2698
	P2	3	1	4	7	84	0.5462
(H3-P)matrix	P3	1/3	1/4	1	3	1/4	0.1276
	P4	1/5	1/7	1/3	1	1/105	0.0564
	H3	P1	P2	P3	P4		
	P1	1	4	2	6	48	0.4949
(H3-P)matrix	P2	1/4	1	1/3	3	1/4	0.1329
	P3	1/2	3	1	5	5/2	0.3111
	P4	1/6	1/3	1/5	1	1/90	0.0610

The factor score expression (1) calculated from the previous calculation can calculate the comprehensive score of the sample movie microblog marketing effect., and then comprehensively evaluate the microblog marketing effect of "The Continent" and "left ear", and the results are shown in Table IX shows:

TABLE VI. EARLY FILM PROMOTION ANALYTIC HIERARCHY TOTAL SORTS

A		
	Hierarchical P Total Sort	Scheme Evaluation
P		
$P_1(\omega_1)$	0.4961	A
$P_2(\omega_2)$	0.2088	C
$P_3(\omega_3)$	0.2287	B
$P_4(\omega_4)$	0.0664	D

TABLE VII. THE STRATEGY MODE ADOPTED IN DIFFERENT PROPAGANDA STAGE

Period	Characteristics	Strategy Mode
Early stage of film promotion	Set public opinion orientation and gain attention	Focused on fan and topic marketing, supplemented by marketing strategies such as public opinion leader marketing
Medium term of film promotion	Planning activities to enhance audience expectations, and thus influence word of mouth	Focused on word-of-mouth marketing, supplemented by marketing strategies such as public opinion leader marketing
Late film promotion	Accumulate word of mouth and popularity, and interact in time to attract more viewers	Focused on interactive marketing, supplemented by marketing strategies such as word-of-mouth marketing

TABLE VIII. MICROBLOG MARKETING IMPACT INDEX DATAL OF 'THE CONTINENT' AND 'THE LEFT EAR'

Number	index	"The Continent"	"The Left Ear"
X1	the number of followers	107	98
X2	the number of fans	484614	156380
X3	the number of posts	3107	1882
X4	the number of topic discussions	4708000	1340000
X5	the number of topics read	2670000000	790000000
X6	the credibility	604	436
X7	the activity	583	328
X8	the communication	367	241
X9	the coverage	446	365

As can be seen from the above table, the comprehensive score of "The Continent" is higher than that of "Left Ear", indicating that the overall microblog marketing effect of "The Continent" is better than the Weibo marketing effect of "Left Ear". Through the analysis of the scores of various factors, "The Continent" is outstanding in fan and topic marketing, and is slightly better than the "Left Ear" in the influence of word-of-mouth communication and opinion leaders; and "Left Ear" in interactive marketing The performance is relatively better. The box office data of the two films is 650 million for the "post-session" and 485 million for the "left ear". It can be analyzed that the overall marketing effect of "the future will be indefinite" is better.

TABLE IX. MAIN FACTOR SCORE AND COMPREHENSIVE FACTOR SCORE OF 'THE CONTINENT' AND 'THE LEFT EAR'

Number	Characterization	"The Continent"	"The Left Ear"
F1	Main factor 1 score	1.040513363	0.307853637
F2	Main factor 2 score	0.165380884	0.048938514
F3	Main factor 3 score	0.211103082	0.062458832
F4	Main factor 4 score	-0.101673428	-0.030081094
F	overall ratings	0.520288816	0.153938261

V. CONCLUSION

Based on the real data collected on Sina Weibo, this paper conducts research on a large number of movie samples, analyzes the influence factors of domestic movie microblog marketing effects and formulates a reasonable domestic microblog marketing strategy, and based on the main factor analysis. Compare and evaluate the microblog marketing effects of movie cases. Through the expert evaluation method, the Sina Weibo data center and Sina Entertainment related film marketing experts are researched and established a domestic film microblog marketing strategy level selection model, which can match different strategy modes according to different propaganda stages of the film. The field is the first research result of the strategy mode discussion in the dimension of the film propaganda stage. It has certain innovation and can provide certain theoretical reference and guidance for domestic film microblog marketing.

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