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The Impact of Social Media Marketing on Luxury Purchase Intention: Consumer Survey in China

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Abstract. The main objective of this very detailed and in-depth study is to explore how social media marketing strategies significantly influence consumers' willingness and propensity to purchase these expensive luxury goods. This very important and systematic study was conducted in China, using a scientific research methodology based on rigorous quantitative methods, with reliable data collected through a well-designed, nuanced and comprehensive online questionnaire. The study used a variety of sophisticated and scientific statistical analysis techniques such as validity and reliability tests, correlation assessment, and regression analysis. The results showed a Cronbach's alpha coefficient of 0.7097, which indicates a high level of consistency and reliability of the collected data. Meanwhile, the factor analysis also confirmed the validity and representativeness of the sample data, supporting hypothesis H1a. Hence, luxury brands in the Chinese market should pay more attention to their social medial marketing strategies in the future to increase Chinese consumers' purchasing intention, improving their performance in the Chinese market.

Keywords: Social Media Marketing; China; Consumer Purchase Intention.

1. Introduction

Businesses understand the importance of creating value for their customers through marketing. This involves meeting customer needs and developing strategic marketing plans for long-term success [1]. E-marketing, also known as digital marketing, is a modern approach that utilizes technology for marketing activities. It enhances traditional marketing functions, transforms strategies into new business models, and ultimately increases customer value and profitability [2]. Social media is a significant aspect of digital marketing that companies must consider today. Modern consumers, often termed 'digital natives,' are multitaskers who simultaneously engage with multiple media platforms, for example, surfing the web, texting and making phone calls while sipping a latte at a cafe. In this modern and extremely advanced age, marketers have a wide range of high-tech and sophisticated tools at their disposal. These versatile and powerful tools enable them to communicate with digital natives in a highly interactive, frequent and productive way. For the vast majority of companies, the key challenge is no longer whether or not to incorporate social media into their communication strategy, but how to make extensive and effective use of this very powerful social media platform [3-4].

The importance of social media marketing in analytics cannot be underestimated. Research conducted by DEI Worldwide in 2008 revealed that a majority of consumers, around 70%, turn to social media platforms for information [5]. Nearly half of them, 49%, base their purchasing decisions on this information. Additionally, as many as 60 per cent of users regularly use these social media platforms and share information across their large and extensive networks, and a further 45 per cent are very active in word-of-mouth marketing campaigns [6]. These remarkable statistics clearly and unmistakably demonstrate that businesses are missing out on a wealth of valuable and huge opportunities if they neglect to integrate social media into their digital marketing strategies. Indeed, social media is more than just a channel for simply delivering information; rather, it facilitates dynamic, engaging and highly interactive dialogue [7]. It is extremely high level of interactivity allows users to freely disseminate, discuss, adapt and evaluate content, and often strengthens the relationships they have built offline [7]. This study aims to provide insights into how well-designed

social media marketing strategies can be used to shape consumer behaviours and generate interest in luxury goods in such a vast and complex Chinese market. Specifically, this study examines the far-reaching impact and significance of the use of effective, efficient and well-managed social media marketing on consumer purchasing behaviour in the Chinese luxury goods industr. Specifically, it aims to delve into the intricate ways in which platforms like Xiaohongshu, WeChat, and Weibo shape the decisions of luxury consumers, either independently or in combination. This in-depth analysis delves into the ways in which intricate and advanced social media marketing tactics can greatly influence the purchasing intentions of Chinese luxury consumers.

2. Methodology

2.1. Research Design

Quantitative research based on primary data is conducted in this study. In addition, a questionnaire survey was implemented and a questionnaire consisting of 14 closed-ended questions was designed and issued to 150 randomly selected volunteers who had the experience of purchasing luxury products and services in the last year. Finally, 130 samples were received and 120 valid samples were collected because 10 volunteers did not answer all questions in the questionnaire.

The research question of this study is that marketers can use social media platforms intelligently and effectively to significantly and visibly influence Chinese consumers' purchase intentions towards luxury goods. In order to comprehensively explore and systematically study the significant and far-reaching impact of various marketing activities in social media on the purchase intention of Chinese consumers in the huge luxury goods industry, the paper proposes the following specific and detailed hypotheses.

H10: There is no significant association between various marketing activities on social media and the purchase intention of consumers towards high-end and luxury goods.

H1a: Various media marketing activities on highly interactive and social platforms have a positive and significant impact on customers' purchase intentions towards high-end and luxury goods.

2.2. Research Model

Based on that hypothesis, the research model was formulated as presented in Figure 1.

Figure 1. The research model

Based on the research model, the dependent and independent variables are identified, which are Customers' Luxury Purchase Intention (CPI) and Social Media Marketing (SMM), respectively. Under this condition, the research model is described in Equation 1:

$$CPI = f(SMM) \quad (1)$$

2.3. Data Collection

In order to obtain the raw and unprocessed data from the questionnaire, the study used a powerful and flexible software tool, the Python programming language. With this programming language, the study analyzed the large amount of information collected in a step-by-step, in-depth and very detailed way, while applying a variety of complex and diverse methods. These complex and time-consuming methods include validity and reliability tests, descriptive statistics, correlation analysis, and regression analysis. Descriptive statistical methods cover the frequency distribution of variables, calculation of variance, finding the mean, and testing for standard deviation. Using correlation and

regression analyses, the study further explored the impact of social media marketing on customers' intention to purchase luxury goods. And in order to assess the reliability of the scale in terms of validity and its internal consistency, a method known as factor analysis, as well as Cronbach's alpha coefficients were also used.

3. Results

3.1. Reliability Test

Table 1 clearly lists the exhaustive set of results obtained during the reliability test. These precise and specific data demonstrate that the Cronbach's Alpha coefficient exceeds the important threshold of 0.7, with an actual value of 0.709763. As can be seen from these data, there is a high degree of consistency between the indicators, which further suggests that the scale performs excellently in terms of reliability and is fully acceptable.

Table 1. The Cronbach's Alpha

Cronbach's Alpha	N of Items
0.709763	5

3.2. The Validity Test

Table 2, the second numbered data table, provides an exhaustive breakdown of the results of two very important statistical tests, the KMO test and the Bartlett test. With regard to the KMO matrix, this tool is actually an important means of assessing whether the sample size is sufficiently large, and by "sufficient" it means whether the sample size of the data is large enough for factor analysis. Usually, if the KMO value fluctuates between 0.5 and 0.7, the study's sample size is considered to be barely adequate. Table 2 shows that it turned out to be quite satisfactory to reach a high-level value - i.e. 0.796, which means that the study's sampling appropriateness is very high. In addition, the Bartlett's test confirms the highly statistically significant conclusion, thus further confirming that these data are extremely suitable for factor analysis, as it shows a significance level well below the standard threshold of 0.05, and more specifically to three decimal places or even less, at a pitifully low 0.000, which undoubtedly confirms that the data are both suitable for more in-depth analyses and have the validity and reliability to be analysed in greater depth. This definitely confirms that the data are both suitable for more in-depth analyses and have a valid and reliable scientific basis.

Table 2. The KMO and Bartlett's Test

	Value
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.796
Bartlett's Test of Sphericity	
Approx. Chi-Square	265.348
Df	21
Sig.	0

Table 3, this detailed and clear list of data contains the inverse image covariance matrix. The so-called inverse image matrix is arguably one of the essential and important components in the output results. Here, the independent variables, i.e. those to be investigated and tested by the researcher, must each have a corresponding sampling adequacy (MSA) value that exceeds a certain minimum requirement, i.e. at least 0.5, and judging from this exhaustive list of data, i.e. from that informative list of data labelled with the third label, the MSA values corresponding to independent variables not only meet but also slightly, but unequivocally, surpass the threshold of 0.5. This threshold indicator, to a reassuringly respectable number 0.52.

Table 3. Anti-image Covariance

	Social Media Marketing	Customer Purchase Intention
Social Media Marketing	0.729	-0.379
Customer Purchase Intention	-0.379	0.729
Anti-image Correlation		
Social Media Marketing	.500a	-0.52
Customer Purchase Intention	-0.52	.500a

a. Measures of Sampling Adequacy (MSA)

The first small graph that provides valuable visual information, also known as the gravel plot, which is about the series of eigenvalues associated with each component, or factor, and arranged in descending order. When the curve starts to plateau, it means that it is optimal to keep as many factors as possible.

Table 4. Commonality based on Principal Component Analysis

	Initial	Extraction
Q1	1	0.758
Q2	1	0.759
Q3	1	0.484
Q4	1	0.572
Q5	1	0.424
Q6	1	0.747
Q7	1	0.695

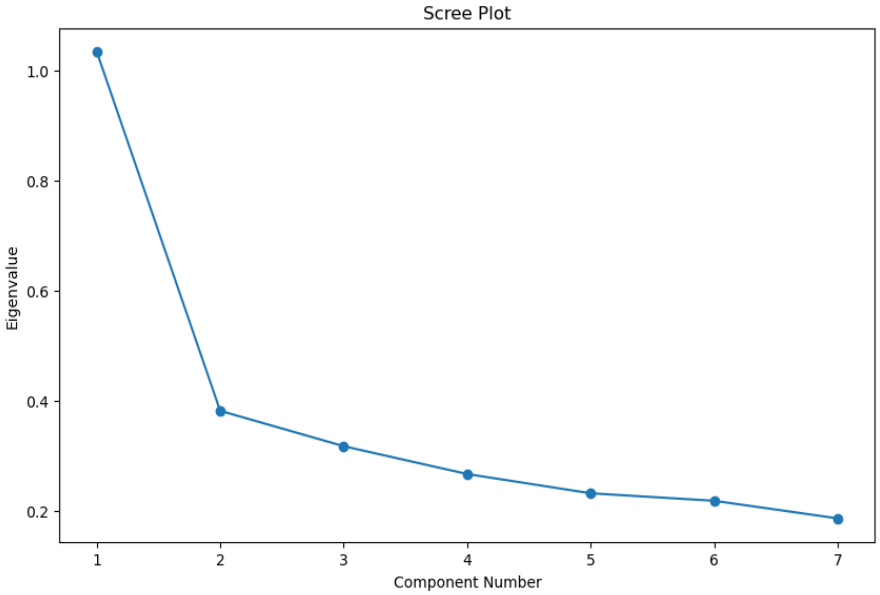

Figure 2. Scree Plot

Some specific detailed results are obtained from Principal Component Analysis (PCA). These notions of commonality actually refer to how much variance is shared within a given variable. According to the fourth sheet, which is fully populated with detailed data, it is clearly suggested that a total of 78.8 per cent of the variance is attributable to question 1, while 75.9 per cent stems from question 2, and 48.4 per cent belongs to question 3, and so on and so forth.

Table 5. Total Variance Explained based on Principal Component Analysis

Component		1	2	3	4	5	6	7
Initial Eigenvalues	Total	1.034	0.382	0.318	0.267	0.232	0.219	0.187
Extraction Sums of Squared Loadings	% of Variance	31.083	11.476	9.545	8.025	6.975	6.566	5.605
Rotation Sums of Squared Loadings	Cumulative %	31.083	42.558	52.103	60.128	67.104	73.67	79.275

What is presented in that detailed, substantial and informative Table 5 very clearly reveals and shows that the first six factors account for a large, if not the vast majority of the variance. This is particularly significant and obvious for that first factor, while the rest of the small and insignificant factors play an almost negligible role and are simply insignificant.

Table 6. Component matrix based on Principal Component Analysis

Component	1
Q2	0.877
Q1	0.855
Q4	0.748
Q3	0.688

In addition, as shown and listed in Table 6, that component matrix provides a detailed and specific list of how each variable loads on the many and varied factors that were successfully extracted.

3.3. Correlation Analysis

For more details on the results of the correlation analyses, please see the data fully displayed and recorded in Table 7. The main purpose of this correlation matrix is to examine and explore the patterns of strong interrelationships between variables, and by analysing this complex data in depth, it is unmistakably clear that the variables are highly significant and exceptionally strongly correlated with each other. As presented in Table 7, the Pearson's correlation coefficient between the independent and dependent variables is highly significant at 0.520, which conclusively and strongly suggests that an increase in social media marketing efforts is likely to lead to an increase in customers' purchase intentions, and the same holds true in reverse. Furthermore, since the determinant significance exceeds a satisfactory no more than 0.00001, there is no potential problem of multicollinearity.

Table 7. The correlation matrix

	Social Media Marketing	Customer Purchase Intention
Social Media Marketing	1	0.52
Customer Purchase Intention	0.52	1

3.4. Multiple Regression Analysis

As for the results of the regression, please refer to the detailed and vividly presented and depicted data in Table 8. From this invaluable and precious data chart, it can be clearly and undoubtedly seen that the multiple correlation coefficient, R, reaches the astonishing and breathtaking value of 0.961, which fully reflects the extremely strong predictive power of dependent variable. In addition, the R-squared value of 0.924 further highlights and emphasises the importance and critical role of "social media" in substantively influencing this predictive model, which cannot be ignored.

Table 8. Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.961	0.924	0.923	0.18278	1.991

The data fits the regression model nicely, with the adjusted R-squared value closely mirroring the R-squared value. Additionally, the Durbin-Watson value of 1.991 falls within the range of critical values (1.5 to 2.5), through very detailed analyses and extremely careful research, no first-order linear autocorrelation was found in the data set of the multiple linear regression. Specific and exhaustive information is presented in Table 9.

Table 9. The ANOVA test results

Model	Sum of Square	df	Mean Square	F	Sig.
Regression	47.513	2	23.757	711.079	0
Residual	3.909	117	0.033		
Total	51.422	119			

Table 10. Coefficient of the regression model

Model	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
(Constant)	2.367	0.017		141.838	0
REGR factor score 1 for analysis 5	0.228	0.017	0.346	13.578	0
REGR factor score 2 for analysis 5	0.590	0.017	0.897	35.182	0

Table 10 details the expected impact on the dependent variable for each unit change in the independent variable. As an example, during the fifth analysis, for each unit change in the independent variable, the REGR factor 1 score is expected to increase by 0.228, while at the same time, the REGR factor 2 score is expected to increase by 0.590. In addition, more useful information can be gained by a careful and in-depth evaluation of the VIF (Variance Inflation Factor) values in this table. These VIF values provide an important indication of the problem of multicollinearity in the model, as well as other relevant insights into the data. It is possible to determine whether or not there is a serious, multiple covariance problem with the multiple linear regression model. If the VIF value is below 10, it indicates that there is no serious, multiple covariance distress.

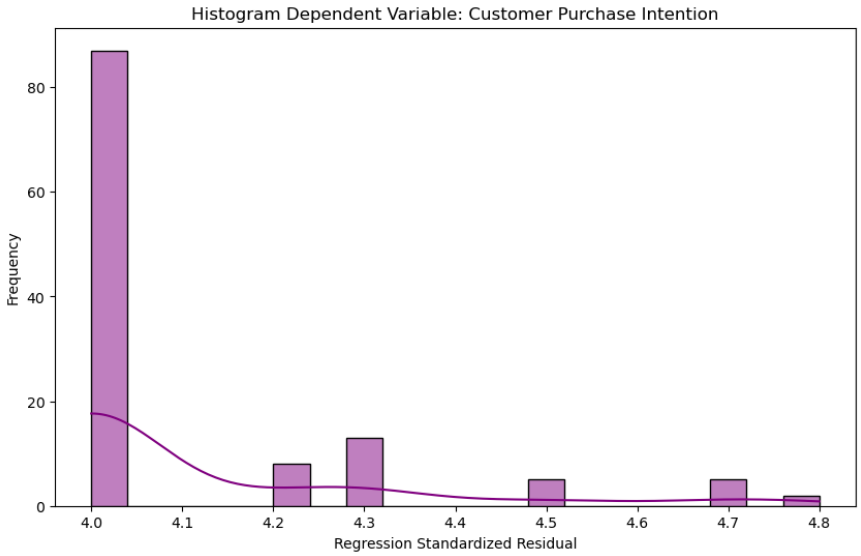

Figure 3. Histogram Dependent Variable

Figure 3, on the other hand, explores the data of the dependent variable in a clear and detailed way using histograms to graphically demonstrate its multivariate normality, in such a way that it indicates that the collected data presents a normal distribution state.

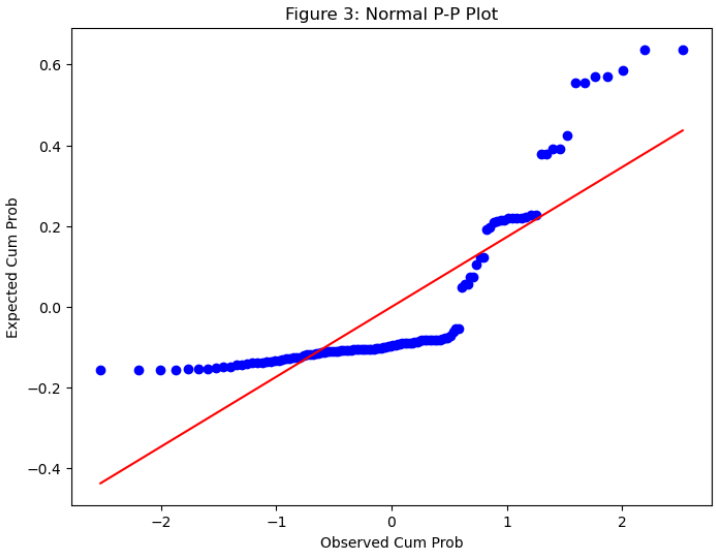

Figure 4. Normal P-P Plot

By referring to the P-P plot (Figure 4), the study is able to assess the normal distribution of the residuals. The data points align closely with the standard line, showing no significant deviation, which suggests that the dependent variable follows a normal distribution.

Last but not least, Table 11 explains and demonstrates the distribution that actually occurs when predicted values are generated by the model, as well as the corresponding error margins within the model.

Table 11. Residual statistics

Statistic	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.0814	4.8746	2.3667	0.63188	120
Std. Predicted Value	-2.034	3.969	0	1	120
Standard Error of Predicted Value	0.017	0.075	0.027	0.011	120
Adjusted Predicted Value	1.0851	4.8531	2.3673	0.63387	120
Residual	-0.52567	0.44885	0	0.18124	120
Std. Residual	-2.876	2.456	0	0.992	120
Stud. Residual	-3.152	2.477	-0.002	1.009	120
Deleted Residual	-0.63151	0.45653	-0.00063	0.18801	120
Stud. Deleted Residual	-3.281	2.533	-0.001	1.019	120
Mahal. Distance	0.003	18.952	1.983	3.047	120
Cook's Distance	0	0.667	0.013	0.062	120
Centered Leverage Value	0	0.159	0.017	0.026	120

4. Conclusion

This extremely detailed and definitive study clearly demonstrates how social media marketing clearly and profoundly influences Chinese consumers' intentions to purchase luxury goods. The findings from factor analysis, correlation matrix and multiple regression analysis show that social media marketing plays a crucial and important role in determining whether consumers will choose to buy luxury goods or not. This can be seen in several statistical methods, including factor analysis, correlation matrix, and multiple regression analysis.

This particular dataset is particularly well suited for factor analysis, as the KMO value of 0.796 is quite low, and the Bartlett's Uniformity Test result (p less than 0.001) is also extremely significant, indicating that the data is suitable for factor analysis. In addition, the covariance matrix and the inverse mapping matrix further confirmed the reliability of the data and its suitability for detailed and complex analyses. Furthermore, the results of the multiple regression analysis clearly show that social media marketing explains as much as 92.4% of the variance in purchase intentions, and the R-squared value further highlights this high percentage, which proves that social media marketing is a major key factor in customers' luxury brand purchasing decisions. In addition, the study also showed that the regression model performed exceptionally well without any significant multicollinearity or autocorrelation problems, with a Durbin-Watson statistic of 1.991 and a reliability test showing a Cronbach's alpha coefficient of 0.709, implying a high degree of consistency and stability of the measurement tool used. In this case, the future research can increase the sample size to collect more consumers' responses to luxury brands' social media marketing strategies and operations and then optimize the findings of this study.

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