Key Drivers of Consumer Purchase Decisions in Short Video Platform Promotions

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Abstract: With the rapid development of short video platforms, self-media marketing has emerged as a central strategy in digital brand promotion. Although existing studies suggest that the number of comments on short video advertisements may positively impact product sales, the role of comment content remains inconclusive. To investigate this further, this study integrates survey responses with web-scraped datasets and applies regression analysis to assess the relationship between user engagement and brand sales performance. The results demonstrate a significant positive correlation between comment volume and sales figures on both Douyin and Taobao, even when comments do not explicitly mention the brand. This may be due to the influence of non-brand-related factors, including influencer appearance or emotional expression. Furthermore, the findings reveal that high-income consumers tend to show stronger purchasing power and reduced price sensitivity, yet their overall participation in short video e-commerce remains relatively low, highlighting untapped market potential.

1 INTRODUCTION

With the widespread adoption of mobile internet and the rapid rise of short video platforms, digital marketing has become a vital strategic tool for interaction between businesses and consumers (Ratchford et al., 2022). Platforms such as Douyin and TikTok have reshaped the way brand value is communicated by offering highly interactive and immersive environments, which in turn subtly influence user attitudes and behaviours (Li & Xia, 2022; Tiago & Veríssimo, 2014). As consumers increasingly rely on digital content to guide their purchasing decisions, the effectiveness of short video advertising has emerged as a significant topic within the field of marketing communications.

Previous research has highlighted the importance of advertising content characteristics, the role of key opinion leaders (KOLs), and social interaction in driving user engagement and purchase intention (Zhang & Zhang, 2024; Chen & Liao, 2021). However, the way in which these factors interact across different platform environments remains underexplored. In addition, the dynamic nature of promotional content and algorithmic recommendation systems poses challenges in evaluating the long-term impact of brand communication (Lamberton & Stephen, 2016).

This study focuses on the relationship between media richness, KOL characteristics, interactivity, and consumer purchase behaviour in the context of short video advertising. By combining regression analysis with visualisation tools, the study aims to identify the variables most closely associated with sales performance and user response, offering strategic insights for marketers seeking to optimise digital advertising campaigns across varied social media ecosystems.

2 METHOD

This study investigates the key factors through which short video platform promotions influence consumer purchase decisions. Given the complex interplay of subjective and objective variables involved in such decisions, a mixed-methods approach was adopted, combining questionnaire-based surveys with web data extraction for enhanced reliability.

The questionnaire was designed with reference to Wang and Li (2023), whose framework explored how

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social and technological affordances shape consumer responses to embedded advertising. Additionally, Liu and Chen (2024) demonstrated that short-form user-generated video content (UGC) is significantly more persuasive in driving purchase intent than traditional image- or text-based formats. Drawing on these insights, the survey focused on key constructs such as frequency of interaction, preference for UGC, brand identification, and actual purchase intent. The final questionnaire comprised three sections: demographic profiling, behavioural variables, and attitudinal measures. It included closed-ended questions, multiple-choice items, and a set of 5-point Likert scale statements aimed at quantifying key psychological and behavioural dimensions. In order to verify internal consistency, both reliability and validity assessments were undertaken to ensure the instrument's robustness before large-scale deployment.

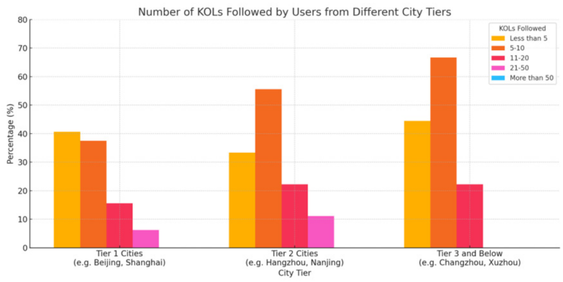
The survey was disseminated via major social platforms including WeChat, Xiaohongshu, and Douyin, targeting users who regularly engage with fashion-related content. Respondents were required to follow a minimum of five fashion influencers to be eligible. A total of 200 valid responses were collected over the course of one month. The majority of participants were aged 19 to 25, lived in tier-one cities, and reported monthly income ranging from RMB 10,000 to 20,000—an income bracket consistent with high digital consumption behaviour in China's urban youth segment. In parallel, web-scraped data were gathered using a Python-based crawler, which retrieved promotional video statistics—namely likes and comments—from 30 fashion-related KOLs on the Douyin platform. To supplement this, sales data corresponding to these KOLs' promoted brands were collected from both Douyin and Taobao, enabling a comparative assessment of platform-specific performance and the influence of consumer interaction metrics. Data collection occurred between February 2024 and February 2025.

Following preprocessing in Python, the dataset was cleaned and analysed using Microsoft Excel, with regression analysis applied to explore variable relationships. This study complied fully with research ethics guidelines: all participants gave informed consent, remained anonymous, and the collected data were used exclusively for academic research.

3 RESULTS

In total, 200 valid questionnaires were collected and analysed for this research. Among all city tiers, users who followed 11–20 fashion influencers accounted for the largest proportion, representing 46% of the sample (see Figure 1). In terms of income distribution, 38% of respondents reported monthly earnings in the RMB 10,000–20,000 range, which corresponds with the sample's urban composition and higher engagement with fashion-related digital content. The survey findings indicate that 96% of respondents believe that positive user comments and favourable brand-related reviews increase their sense of brand identification. This underscores the critical role of social proof in shaping consumer perceptions, suggesting that peer feedback and community sentiment have a significant influence on individual attitudes toward fashion brands.

To assess the correlation between user engagement metrics and brand-related comment content, linear regression analysis was conducted on data from 30 key opinion leaders (KOLs) active on the Douyin platform. The results revealed a low explanatory power, with an R^2 value of 0.073, indicating that likes and comments together explained only 7.3% of the variation in the dependent variable (see Table 1). The overall model failed to reach statistical significance (Significance F = 0.357), and the individual p-values for likes and comments were 0.247 and 0.945 respectively, both well above the 0.05 significance threshold (see Tables 2 and 3). These findings suggest that there is no statistically significant linear relationship between the volume of engagement and whether the comments contain brand-related content. As shown in Figure 2, the age group of 36–45 has the highest proportion of consumers purchasing high-end fashion, reaching 67%. In contrast, the 19–25 age group demonstrates the strongest preference for fast fashion, with 46% of respondents opting for it. This suggests that consumers aged 36–45 are more inclined towards premium fashion brands, whereas those under 25 tend to favour fast fashion options. As shown in Figure 3, 75% of individuals with a monthly income between 3,000 and 6,000 opt for fast fashion, while 40% of those earning over 20,000 tend to choose high-end fashion. This pattern closely aligns with variations in income levels across age groups, further highlighting the significant role of economic capacity in shaping consumer purchasing behaviour. Finally, regression models examining the relationship between comment volume and platform-based sales performance demonstrated a clear positive correlation. The model for Douyin yielded an R^2 of 0.700 and a regression coefficient of 10.042, while the Taobao model recorded an R^2 of 0.565 and a coefficient of 8.645 (see Tables 4). Both results were statistically significant; however, the Douyin model demonstrated a stronger fit, indicating that in-platform comment engagement is a more effective driver of sales performance within the short video ecosystem.



Alt Text for the figure: A bar chart showing that Tier 1 users follow more KOLs than Tier 3 users, mainly in the 11–20 range.

Figure 1 Number Of KOLs Followed By Users From Different City Tiers

Table 1. Regression Statistics between Comments and Brand-Related Comments 1

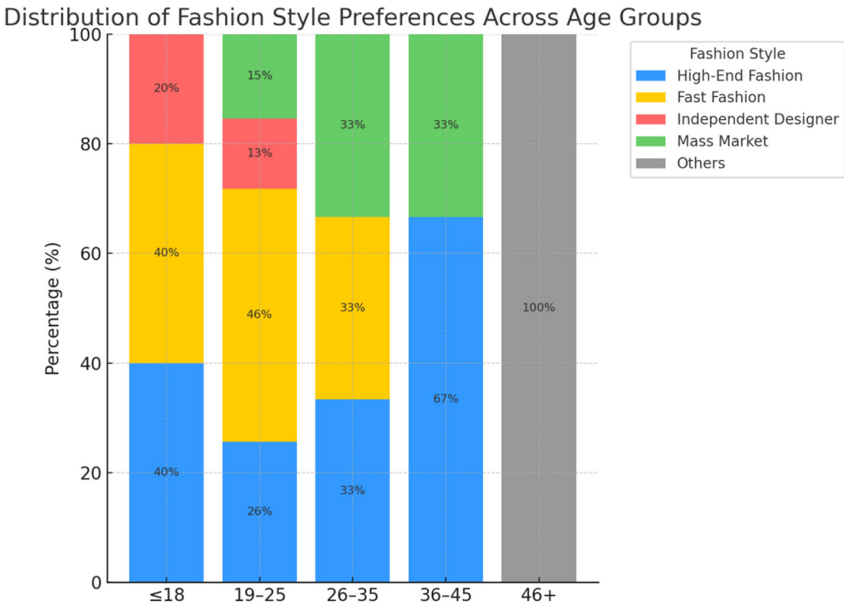
Regression Statistics	
Multiple R	0.271
R Square	0.073
Adjusted R Square	0.005
Standard Error	14.382
Observations	30

Table 2. Regression Statistics between Comments and Brand-Related Comments 2

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	442.360	221.180	1.069	0.357
Residual	27	5584.44	206.831		
Total	29	6026.8			

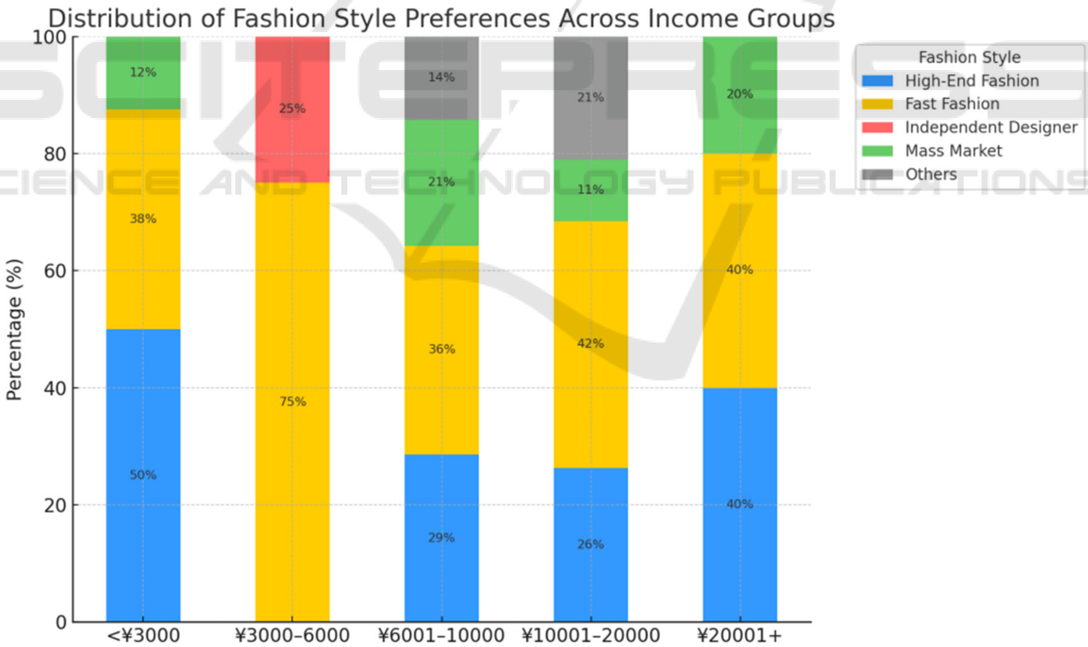
Table 3. Regression Statistics between Comments and Brand-Related Comments 3

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	13.454	7.803	1.724	0.096	-2.557	29.465	-2.557	29.465
Total Likes on Promo Videos	3.46E-05	2.92E-05	1.183	0.247	-2.5E-05	9.46E-05	-2.5E-05	9.46E-05
Total Comments on Promo Videos	-0.000	0.002	-0.070	0.945	-0.005	0.004	-0.005	0.004



Alt Text for the figure: A stacked bar chart illustrating fashion style preferences by age group, where users aged 36–45 prefer high-end fashion and those under 25 favour fast fashion.

Figure 2. Distribution Of Fashion Style Preferences Across Age Groups



Alt Text for the figure: A stacked bar chart showing fashion style choices across different income brackets, indicating that higher-income groups tend to prefer luxury or designer brands.

Figure 3. Distribution Of Fashion Style Preferences Across Income Groups

Table 4. Regression Analysis of Comment Volume and Sales Performance on Two Platforms

Metric	Douyin	Taobao
Multiple R	0.837	0.752
R Square	0.700	0.565
Adjusted R Square	0.690	0.550
Standard Error	3355.254	3873.493
Observations	30	30
F-statistic	65.437	36.387
Significance F	8.29E-09	1.68E-06
Intercept	-890.733	469.061
Total Comments Coefficient	10.042	8.645
Intercept P-value	0.564	0.792
Total Comments P-value	8.29E-09	1.68E-06
Intercept Lower 95%	-4013.96	-3136.57
Intercept Upper 95%	2232.496	4074.69
Total Comments Lower 95%	7.499	5.709
Total Comments Upper 95%	12.585	11.581

4 DISCUSSION

This study found that there was no significant relationship between the number of brand-related comments and likes and the extent to which brand names were mentioned in user comments. However, the number of comments was positively and significantly associated with sales performance across both in-platform (Douyin) and external (Taobao) channels. One possible explanation for this phenomenon is that the KOLs selected for promotion were not fashion-specific influencers but rather beauty-oriented figures whose content tended to focus more on personal image, emotional expression, or general interaction, rather than on brand-specific messaging. This likely introduced noise into the dataset, thereby weakening the explanatory power of the regression analysis. Although the presence of brand mentions in comments could not be effectively predicted by the volume of interaction, further regression analysis revealed that promotional activities–despite not being within a highly vertical content domain–still had a significant and positive effect on brand sales, both within and outside the platform. These findings align with the research results of Li and Xia (2022), who underscored the critical role of interactivity in advertising effectiveness, and also support Ge et al.' s (2021) argument that, in the context of short video advertising, "engagement outweighs content." Based on these insights, it is recommended that brands guide users to focus their comments and feedback more directly on the product itself, thereby enhancing the brand relevance of the comment content. Strengthening this relevance can improve the predictive value of comments as indicators of sales performance. Prior studies have shown that the characteristics of opinion leaders – such as professionalism, interactivity, and credibility – can significantly boost consumer trust and engagement, which in turn drive purchase intention (Lin & Huang, 2020; Feng, Sun, & Tang, 2025). Enhancing brand-focused engagement is therefore instrumental in strengthening brand associations and improving conversion efficiency. In addition, the research highlights that high-income consumers tend to be less sensitive to price fluctuations during the decision-making process (Wang, 2023). This demographic is more inclined to pay a premium for high-quality, trusted brands rather than being influenced solely by price. However, the penetration of this consumer segment in short video e-commerce remains relatively limited. As such, brands should further refine their audience segmentation strategies, optimise content design, and adopt personalised targeting approaches to more effectively reach these high-potential but currently underserved consumer groups.

5 CONCLUSION

This study finds that although the number of comments is not significantly linearly associated with whether the content of those comments refers to the brand, it is nonetheless positively and significantly correlated with sales performance across both in-platform and external channels. This correlation was particularly strong on Douyin, where the model demonstrated a better fit. These results suggest that the volume of comments may influence sales regardless of whether the comments themselves explicitly mention the brand. Moreover, the effect of promotion is not limited to the platform on which the content appears, indicating spill-over impact. The research also highlights that high-income consumers are relatively insensitive to price when purchasing high-end fashion products, revealing a segment with strong purchasing power that brands should strategically target. These findings contribute to the existing literature by addressing the underexplored relationship between engagement metrics in short video advertising and sales performance, offering both theoretical insights and empirical evidence to inform more refined content strategies and high-value customer targeting in the context of digital marketing. Nevertheless, this study is not without limitations. The sample size was relatively small, and the analysis did not account for the emotional tone or semantic structure of user comments. Additionally, multidimensional characteristics of KOLs−such as gender, professional background, or content specialisation−were not considered. Future research could adopt natural language processing techniques to explore sentiment and textual features of user comments in greater depth. Expanding the sample scope and incorporating diverse KOL characteristics would further enhance the robustness and explanatory power of the model. Moreover, future investigations could explore the potential influence of virtual KOLs and platform algorithms on consumer purchase intentions.

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