

# Research on the Influence Mechanism of Short Video Communication Effect of Furniture Brand: Based on ELM Model and Regression Analysis

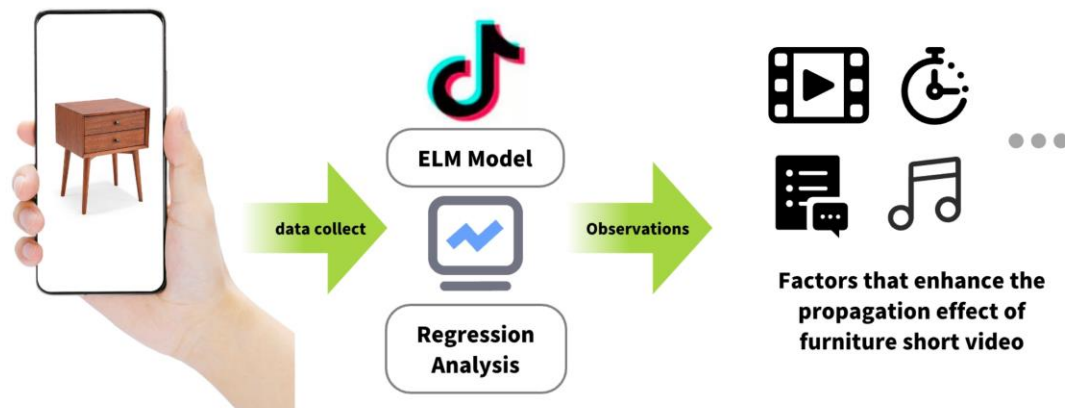
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## GRAPHICAL ABSTRACT

Furniture Brand Communication effect



# Research on the Influence Mechanism of Short Video Communication Effect of Furniture Brand: Based on ELM Model and Regression Analysis

Shulan Yu \* and Zehui Wu

The elaboration likelihood model (ELM) and regression analysis were used to investigate the impact of furniture brands' communication strategies on consumer behavior through short video platforms. The work examined a set of representative short videos, analyzing how key features—such as content theme, duration (16-60 seconds), graphics, subtitles, background music, and title style—affected communication effectiveness. The ELM model uncovered the correlation between these video characteristics and the Communication Effect Index (DCI), with statistical significance confirmed by regression. Findings indicated that live broadcasts, graphical presentations, subtitles/topics, upbeat music, and exclamatory titles significantly enhanced communication efficiency. Limitations, including time-period sampling bias, sample size, and item duplication in the ELM application, were also considered. Based on these findings, the research offers optimization suggestions and future directions for furniture enterprises in leveraging short video marketing.

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Keywords: Furniture brand; Short video; Communication effect; ELM; Regression analysis

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## INTRODUCTION

In today's information and visual new media era, short videos have risen rapidly with their short, pithy, intuitive, and vivid features, such that they have become an important carrier of brand communication and marketing (Hazari *et al.* 2023). Research shows that using mobile communication can greatly improve the availability and accessibility of information, and these new mobile social media platforms play an important role in information dissemination (Wu and Gong 2023). With the popularity of the mobile Internet and the formation of users' fragmented reading habits, the traditional furniture industry is facing new challenges and needs to upgrade its development model (Xiong *et al.* 2017). The furniture industry is also actively following this trend, displaying product features and conveying brand concepts through short videos, and building emotional connection and value recognition with consumers. However, the in-depth analysis of the short video communication effect of furniture brands still has been insufficient. This paper aimed to explore the specific influence mechanism and practical effect of short video communication of furniture brands on consumers' cognition, emotional response, purchase intention, and even brand image building through theoretical discussion and empirical analysis. A further goal was to provide a scientific basis and practical guidance for furniture enterprises to optimize new media marketing strategies.

In recent years, academic circles have paid great attention to the role of short videos in brand communication. Many studies have shown that short videos can attract a large number of users' attention in a short time because of their innovative content and interactive form, thus effectively enhancing the brand's popularity and influence (Rizqi Febriandika *et al.* 2023). At the same time, with the gradual maturity of e-commerce, people's acceptance of online consumption of furniture has increased significantly, which puts forward higher requirements for online perception experience of furniture (Zhang *et al.* 2022). Especially in the furniture industry, short videos can show the design aesthetics and usage scenes of furniture products in a three-dimensional and dynamic way, which greatly enriches the expressive force of traditional graphic communication methods.

However, the traditional material-oriented manufacturing thinking of wood furniture industry has restricted the development of furniture industry in the era of "internet plus". Short video communication of furniture brands is not a simple "content output", which involves a series of complex factors such as communication strategy selection, audience psychological grasp, social media environment adaptation, and so on. Previous studies have pointed out that content quality, story narration, content duration, and other factors will have a significant impact on the communication effect (Yang *et al.* 2024).

Researchers have examined consumer behavior and online purchasing patterns in the furniture industry. Thanyamon (2012) found that factors such as furniture quality, functionality, and size influence consumer choices in Thailand. A study (Al-Azzam and Fattah 2014) identified family, price, and quality as key factors in Jordanian consumers' purchase decisions. Li *et al.* (2016) emphasized the importance of promoting O2O shopping models and after-sales services for online furniture purchasing. Lin *et al.* (2019) studied Chinese consumers' attitudes towards using the O2O model for wooden furniture shopping and found variations in acceptance among consumers from different city tiers. Jiang *et al.* (2020) and Liu *et al.* (2024) found that color preferences have a significant impact on furniture choices. They also introduced a new color design practice method, offering important insights for the furniture industry. Na Yu *et al.* (2021) studied furniture color aesthetics using eye-tracking technology and subjective evaluation, providing a scientific basis for furniture design and promotion. Zhao and Xu (2023) proposed an innovative evaluation method for modular wooden storage cabinet design for children, guiding the display and assessment of children's furniture designs through short videos (Zhao and Xu 2023). Changlong Yu *et al.* (2024) found that product factors, particularly prices, significantly influence consumer decisions in online furniture purchases. Shulan Yu *et al.* (2024) explored the impact of short video advertisements on consumer purchasing intentions.

This paper aimed to analyze the characteristics and patterns of furniture brand short video dissemination and evaluate their effectiveness. It fills research gaps and provides insights for furniture companies' brand communication strategies in the era of short videos.

## EXPERIMENTAL

### Data Source

The latest works published in the second half of 2023 (June 1, 2023-December 31, 2023) by the official account of the furniture brand in Vibrato Platform were used as the data source for this work.

## Methods

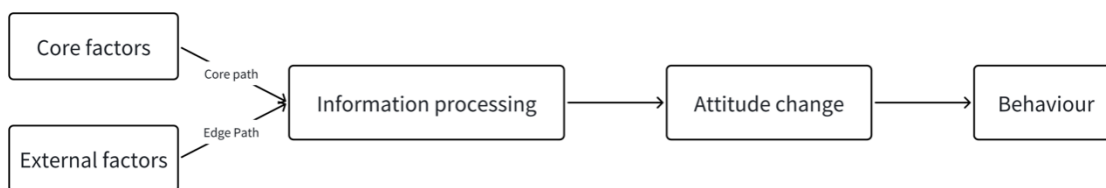
According to the information published on the official WeChat account of the 7<sup>th</sup> Fourth Council of China Home Furnishing Association in 2023 (CNFA 2023), the authors ascertained the top ten brands in China's furniture industry. Concurrently, by consulting the popularity rankings on TikTok, it was possible to select active self-operated TikTok accounts of national home furnishing brands. During the screening process, it was noted that some of the top ten brands had not activated TikTok accounts or had infrequent updates, resulting in a limited number of eligible accounts. To ensure the comprehensiveness of the research, TikTok accounts were included for furniture brands that demonstrated significant activity but were not among the top ten. Ultimately, the study focused on five such furniture brand TikTok accounts.

The inclusion criteria were as follows: (1) The TikTok account must be the official flagship store account of a furniture brand; (2) The account must have official "Blue V" certification; (3) There must be continuous video updates in 2023 (with a video publication count exceeding 100 in 2023).

Secondly, Python software was used to capture the basic information and media form characteristics of the latest 100 short video works released in the past six months of 2023 (June 1, 2023-December 31, 2023), such as the number of likes, the number of reposts, the number of comments, the area where the account belongs, and so on, such as pictures, animations, duration, title types, and so on. After eliminating the repeated and invalid information, a total of 500 valid video entries were obtained.

## Model

In 1986, Petty and other scholars put forward the two-path model (ELM model), as shown in Fig. 1 (Petty and Caciopp 1986). At first, the model was mainly used in the research of attitude change and persuasion, and later it was widely used in the research of management, and now it is gradually introduced into the research of network information dissemination (Nadkarni and Gupta 2007).



**Fig. 1.** Example of ELM model diagram

The ELM model holds that people's ability to process information affects people's attitude and behavior. Information processing generally has two paths: a central path and a marginal or "edge" path. The factors related to the information itself are mainly handled by the central path, and the factors unrelated to the information itself are mainly handled by the edge path. The central path and the edge path are not independent, but exist on both sides of the unity at the same time. When there are more possibilities for individuals to process information finely, the central path plays the greatest role. On the contrary, when the possibility is less, the edge path plays the greatest role.

Based on the ELM model, this study divided the communication effect of the official TikTok account of furniture brand as a dependent variable into eight dimensions: the central path (two dimensions) and the edge path (six dimensions).

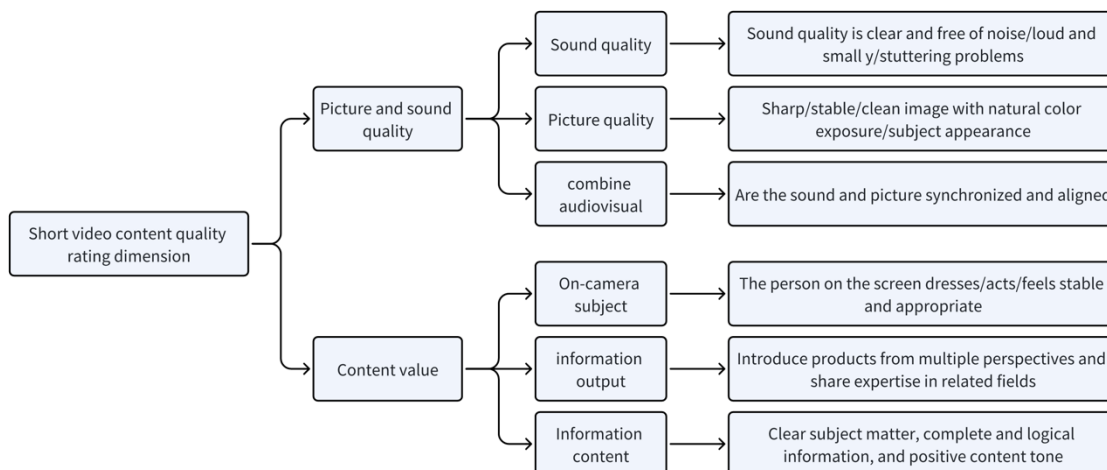
**Core Path**

*Content theme*

According to a reputable blog entry (data newrank 2023), there are several data insight studies on TikTok platform furniture industry accounts, which are divided into designer/star IP, shopping skills, scene content, employee daily life, welfare broadcast notice and other six types.

*Content quality*

Combining TikTok’s recommendation algorithm and manually checking whether the video is logical and complete, referring to "E-commerce Content Creation Standard", the quality was divided by dimensions such as sound and picture quality and information value (Tiktok e-commerce 2022), as shown in Fig. 2.



**Fig. 2.** Short video content quality grading dimensions

**Edge Path**

*Production category*

Based on the objectives of content creation, audience engagement, technical complexity, and brand communication requirements, it is possible to divide the content creation strategies of short videos of furniture brands into five main types: first, scene pre-recorded video production, in which the video theme, shooting scenes, and scripts are carefully designed and planned before shooting. Secondly, live clip editing uses the highlights of live activities for post-processing and integration. Furthermore, the communication content in the form of animation is constructed based on pictures or virtual images. In addition, by using the method of sitcom, one can show and solve the complex problems and puzzles that consumers may face by writing and deducing story scripts that are closely related to daily life. Finally, a video clip can include other innovative and diverse expressions. These different forms together constitute the rich communication matrix of furniture brands on the short video platform.

*Duration*

According to the overall short playing duration of short videos and the needs of this study, short videos were classified into multiple categories based on 15 seconds, specifically, the duration was classified as 0 ~ 15s, 16 ~ 30s, 31 ~ 60s, 61 ~ 120s, 121 ~ 180s and above 181 s.

#### *Video subtitles*

Video subtitles refer to the text that appears at the bottom of the screen. Adding video subtitles will help the audience to understand the short video content more clearly, thus affecting the communication effect. In this study, the added video subtitles were assigned a value of "1", and those that were not added were assigned a value of "0". Studies utilizing eye-tracking experiments have demonstrated the potential value of subtitle text in attracting viewers' attention and aiding in information comprehension, thereby effectively enhancing communication effectiveness (Lu *et al.* 2022). Therefore, this study categorized the presentation format into two types: subtitle and non-subtitle.

#### *Whether to bring topic tags*

Research has shown the importance of trending topics in the dissemination of short videos (Li *et al.* 2022), so this study analyzed them as a dimension.

#### *Emotional types of background music*

Background music accompanying a video clip mainly expresses the theme with liveliness, gentleness, solemnity, nothingness, and others, and setting off the atmosphere to some extent.

#### *Title types*

Research indicates that compelling titles can enhance the virality of short videos (Zhang *et al.* 2024). Accordingly, this study included them as influencing factors, which can be divided into declarative sentences, exclamatory sentences, interrogative sentences, and exclamatory sentences.

For the content theme, the designer/star is taken as a reference and transformed into five dummy variables. For the production category, the real scene is taken as a reference and transformed into five dummy variables. For background music, "nothing" is taken as a reference and transformed into four dummy variables. For the title type, "exclamatory sentence" is taken as a reference and transformed into four dummy variables. For the content quality, "low" is taken as a reference, and it is transformed into three dummy variables, which are defined as 0, 1, and 2 according to low, medium, and high quality. Regarding whether to bring a topic, "none" is taken as a reference and transformed into a dummy variable. For subtitles, "none" is taken as a reference and converted into a dummy variable. For the video duration, with 0 s to 15 s as the reference, it is transformed into six dummy variables, which are assigned as 1, 2, 3, 4, 5, and 6 according to the duration from low to high. Table 1 contains the description and assignment of each variable.

### **Dependent Variable**

This study incorporated the TikTok Communication Index (DCI)(Qingbo Index 2020) developed by Qingbo Intelligent Company as the dependent variable, and it comprehensively evaluated the communication influence of TikTok accounts on short video platforms through three dimensions: release index (10%), interaction index (76%), and coverage index (14%). Its calculation formula was:

$$\text{DCI} = \{0.10 \times \ln(X_1 + 1) + 0.76 \times [0.17 \times \ln(X_2 + 1) + 0.37 \times \ln(X_3 + 1) + 0.46 \times \ln(X_4 + 1)] + 0.14 \times [0.11 \times \ln(X_5 + 1) + 0.89 \times \ln(X_6 + 1)]\} \times 1000 \quad (1)$$

where  $X_1$  is the number of new works,  $X_2$  is the number of likes,  $X_3$  is the number of comments,  $X_4$  is the number of reposts,  $X_5$  is the number of new fans, and  $X_6$  is the total number of fans.

### Formulation of Hypotheses

Following an in-depth analysis of the characteristics of short videos for furniture brand communication and a review of existing literature, the following research hypotheses were proposed to explore the specific impact of short video features on communication effectiveness:

H1: The type of content theme (*e.g.*, designer/celebrity IP, purchasing tips, scenario-based content, *etc.*) has a significant effect on the communication effectiveness of furniture brand short videos.

H2: There is a positive correlation between the quality of short video content (high, medium, low) and communication effectiveness, such that higher content quality leads to better communication outcomes.

H3: The duration of short videos has an inverted U-shaped relationship with communication effectiveness, where a moderate length (16 to 60 seconds) yields the optimal results.

H4: The category of production (*e.g.*, live broadcasting, graphic display, *etc.*) significantly positively affects the communication effectiveness of short videos.

H5: The emotional type of background music in short videos (*e.g.*, lively, gentle, *etc.*) significantly influences communication effectiveness.

H6: The type of title (*e.g.*, declarative sentences, exclamatory sentences, *etc.*) significantly impacts the communication effectiveness of short videos.

H7: The presence of subtitles and topic tags in the video significantly affects communication effectiveness.

### Quality Control

To ensure data consistency and accuracy, 100 samples were randomly selected for pre-coding. Two evaluators independently classified the content themes, video durations, presentation formats, title types, presence of topic hashtag, content quality, production categories, and emotional types of these samples. The Kappa test results showed that all Kappa values exceeded 0.85, indicating consistent classification results between the two evaluators. Subsequently, the 500 samples were independently coded.

### Statistical Analysis

Excel software was used to collect, preprocess, and standardize the data to ensure the quality and integrity of the data. Using SPSS 27.0 statistical analysis software, the basic information of TikTok's account number was analyzed by descriptive statistics to reveal the distribution of various features in the sample directly.

The ordinary least square method was used for regression analysis of the relationship between variables and their influence intensity. P value less than 0.1 was used as the standard threshold for judging the significance.

**Table 1.** Variable Assignment and Description

Name	Variable type	Interpretation & Assignment
Communication effect DCI	continuous variable	The spread influence of TikTok on the short video platform is comprehensively reflected through the number, interaction and user coverage of short videos released by TikTok account.
Content theme	dummy variable	The content theme is transformed into six dummy variables, and the designer class is the control. 1= designer/star IP; 2= selling skills; 3= scene content; 4= Daily life of employees; 5= welfare broadcast notice; 6= Other
Content quality	dummy variable	The content quality is transformed into three dummy variables, and the low content quality is the control. 0= low content quality; 1= Medium content quality; 2= High content quality
Production category	dummy variable	The production category is transformed into six dummy variables, and the scene real shot category is the control. 1= real shot of the scene; 2= live broadcast; 3= animation; 4= melodrama; 5= Other; 6= graphic
Video duration	dummy variable	The video duration is converted into six dummy variables, with 0 to 15 s as the control. 1 = 0 to 15 s; 2 = 16 to 30 s; 3 = 31 to 60 s; 4= 61 to 120 s; 5 = 121 to 180s; 6 = above 181 s
Broadcast form	categorical variable	1= with subtitles; 0= No subtitles; No subtitles as control
Whether to bring a topic?	categorical variable	1= there is a topic; 0= No topic; No topic as control
Emotional types of background music	dummy variable	The emotional type of background music is transformed into five dummy variables, and the others are controls. 0= no background music; 1= lively; 2= tenderness; 3= solemn; 4= Other
Title type	dummy variable	The title type is transformed into five dummy variables, and the exclamatory sentence is the control. 0= No title; 1= declarative sentence; 2= interrogative sentence; 3= exclamatory sentence; 4= Both.

## RESULTS AND DISCUSSION

### Basic Information of TikTok Account of Furniture Brand

Five short video TikTok accounts of furniture brands that meet the standards were included, with a total of 500 short videos. As shown in Table 2, Chihuahua published the most works, with 1,586 in the past six months, and the number of works by Gu Jiaju was the least, with 193. The number of likes ranged from 25,800 to 239,400; the number of collections ranged from 599,300 to 9,240,000. The number of comments ranged from 0,700 to 26,900, and the number of reposts ranged from 0,210 to 11,100. The number of fans ranged from 182,000 to 1,651,000. DCI ranged from 623.50 to 843.77.



**Table 2.** Basic Account Information of TikTok (June 1, 2023-December 31, 2023)

TikTok Account Name	Works (articles)	Number of Likes (10,000)	Number of Collections (10,000)	Number of Comments (10,000)	Number of Forwardings (10,000)	Number of Fans (10,000)	DCI
Zhihuashi first class	1586	14.43	924.00	1.27	1.11	139.3	843.77
Gujia home furnishing	193	23.33	289.50	0.39	0.58	103.8	623.50
Linshi home furnishing	1280	23.94	817.15	2.69	0.64	165.1	816.62
Yuanshi muyu store	354	2.58	59.93	0.07	0.21	18.2	645.55
Quan u furniture shop	1245	3.74	319.84	0.12	0.37	85.9	780.54

**Table 3.** Basic Information of Short Video Dimensions (n=500)

Name	Option	Frequency	Percentage (%)	Cumulative Percentage (%)
Content Theme _ Digital Coding	Shopping skills	221	44.2	44.2
	Scene content	158	31.6	75.8
	Welfare broadcast notice	64	12.8	88.6
	Designer/star IP	29	5.8	94.4
	daily life	19	3.8	98.2
	other	9	1.8	100
Content Quality	middle	246	49.2	49.2
	tall	177	35.4	84.6
	low	77	15.4	100
Production Category _ Digital Coding	Sitcom	244	48.8	48.8
	Scene real shot	125	25	73.8
	live broadcast	106	21.2	95
	image-text	16	3.2	98.2
	animation	7	1.4	99.6
	other	2	0.4	100
Topic	With a topic	498	99.6	99.6
	Without topic	2	0.4	100
Video duration class _ digital coding	16-30	249	49.8	49.8
	31-60	130	26	75.8
	0-15	91	18.2	94
	61-120	17	3.4	97.4
	121-180	9	1.8	99.2
	181+	4	0.8	100
Background Music Type _ Digital Coding	gentle	189	37.8	37.8
	lively	182	36.4	74.2
	without	86	17.2	91.4
	other	24	4.8	96.2
	solemn	19	3.8	100
Title Type _ Numeric Coding	declarative sentence	325	65	65
	exclamatory sentence	144	28.8	93.8
	interrogative sentence	22	4.4	98.2
	all have	9	1.8	100
Subtitle _ Digital Coding	With subtitles	428	85.6	85.6
	No subtitles	72	14.4	100

**Table 4.** Regression Analysis Results of Influencing Factors of Short Video Communication Effect (n=500)

	Non-standardized coefficient b	Standardization coefficient Beta	P	VIF
Content quality (low content quality as control)				
Content quality	-23.456	-0.13	0.061*	3.209
High content quality	-15.431	-0.082	0.253	3.427
Content theme (designer/star IP as control)				
Content theme purchasing skills	107.158	0.589	0.000***	5.737
Content theme scene content	126.741	0.653	0.000***	5.76
Content, theme, daily life	87.5	0.185	0.000***	1.839
Content theme welfare broadcast notice	97.967	0.363	0.000***	3.49
Content theme other	14.024	0.021	0.655	1.43
Video duration (0s-15s as control)				
Video Duration Category _ Digital Coding _121-180	-56.184	-0.083	0.055*	1.241
Video Duration Category _ Digital Coding _16-30	24.903	0.138	0.014**	2.09
Video Duration Category _ Digital Coding _181+	-111.995	-0.111	0.006***	1.082
Video Duration Category _ Digital Coding _31-60	33.661	0.164	0.004***	2.187
Video Duration Category _ Digital Coding _61-120	-24.206	-0.049	0.276	1.332
Background music type (others as control)				
Background Music Type _ Digital Coding _ Solemn	13.999	0.03	0.568	1.809
Background Music Type _ Digital Coding _ None	19.874	0.083	0.281	3.971
Background Music Type _ Digital Coding _ Lively	32.483	0.173	0.060*	5.638
Background Music Type _ Digital Coding _ Gentle	28.128	0.151	0.101	5.661
Production category (actual shooting of the scene as control)				
Production category live broadcast	20.658	0.094	0.091*	2.051
Make category animation	-47.174	-0.061	0.143	1.177
Making category graphic	60.755	0.118	0.010**	1.423
Make a category sitcom	8.248	0.046	0.399	1.965
Production category other	6.569	0.005	0.909	1.094
Title type (exclamatory sentence as control)				
Title Type _ Numeric Coding _ Interrogative Questions	-6.914	-0.016	0.707	1.168
Title type _ number code _ has both.	-65.055	-0.096	0.023**	1.189
Title Type _ Number Coding _ Statement Sentence	-59.852	-0.316	0.000***	1.23
Subtitle category (no subtitle as control)				
Subtitle _ Digital Coding _ With Subtitles	14.608	0.057	0.263	1.727
Topic category (no topic as control)				
Is there a topic _ Numeric code _ There is a topic	-84.801	-0.059	0.137	1.065

\* Note: \*\*\*, \*\* and \* represent the significance levels of 1%, 5% and 10% respectively.

### Basic Situation of Short Video

Among the 500 short videos included in this study, the content topics were mainly shopping skills and scene content, accounting for 44.7% and 29.0%, respectively. Medium quality video accounts for the largest proportion, accounting for 49.2%. In terms of production categories, sitcoms, real scenes, and live broadcasts were the main types, accounting for 48.8%, 25%, and 21.2%, respectively. The growth of time was controlled within 60 seconds, of which 16 to 30 s and 31 to 60 s were the majority, accounting for 49.8% and 26%. A total of 85.6% of the short videos are subtitled, and the same nearly universal proportion (99.6%) carry hashtags. According to the emotional types of background music, 17.2% of the videos have no background music. Most of them were gentle and lively music, 37.8% were gentle and 36.4% were lively. 65% of the short video titles were declarative sentences, and 28.9% of the videos were mainly interrogative sentences, as shown in Table 3.

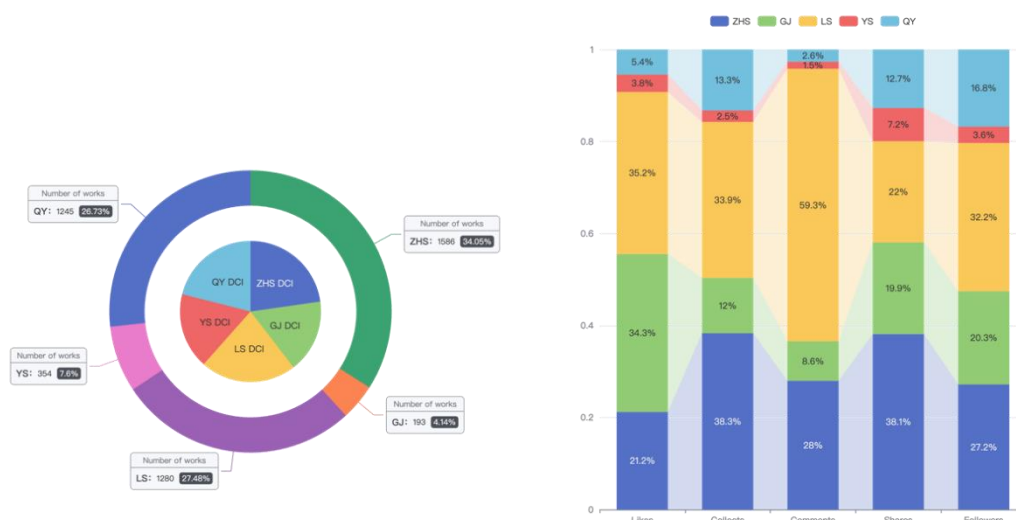


Fig. 3. Statistics on the proportion of each module

### Analysis Results of Influencing Factors of Short Video Communication Effect

The result analysis of the F-test showed that the P value was 0.000\*\*\*, which is significant, and the original hypothesis that the regression coefficient is 0 could be rejected, so the model basically met the requirements. For the collinearity of variables, VIF was all less than 10, so the model had no multicollinearity problem and the model was well constructed (Draper and Smith 1998).

The results of the regression analysis showed that most of the research hypotheses were supported. Specifically:

H1 was supported, indicating that content themes related to scenario-based content and purchasing tips had a significant positive impact on dissemination effectiveness compared to designer/celebrity-related short videos. Welfare broadcasts and daily life-related content also had a significant impact on dissemination effectiveness.

H2 was not supported in this study, as the impact of content quality on the dissemination effectiveness of furniture brand short videos did not reach statistical significance ( $P > 0.05$ ). This suggests that the relationship between content quality and dissemination effectiveness is not directly positive. Further research is needed to explore

the relationship between content quality and audience alignment, in order to develop more accurate communication strategies. For instance, previous studies have analyzed various user profiles for wooden doors using consumer behavior theories and questionnaire surveys to enhance message delivery (Zhou *et al.* 2023). Future research could focus on consumer behavior analysis to refine user preferences and provide customized guidance for content creation in the furniture industry.

H3 supported the hypothesis that video duration significantly influenced dissemination effectiveness. Furniture brand short videos with durations of 31 to 60 s had a highly significant positive impact, while videos with durations of 16 to 30 s also had a significantly positive impact. Videos exceeding 60 s showed a negative impact on dissemination effectiveness, consistent with the findings of J. Zhang *et al.* (2022), indicating that longer videos lead to lower user engagement, aligning with user viewing habits and attention spans.

H4 supported the hypothesis that production categories influenced dissemination effectiveness. Compared to scene-based filming, text-and-image-based and live-streaming short videos had a significant positive impact on dissemination effectiveness. Animation, situational dramas, and other categories did not show a significant impact, suggesting that real-time relevance and visual clarity play a positive role in user attraction.

H5 partially supported the hypothesis that lively background music had a positive impact on dissemination effectiveness compared to other types of background music. However, the impact of other types of background music was not significant.

H6 supported the hypothesis that title types significantly influenced dissemination effectiveness. Statement-based titles performed worse in dissemination effectiveness compared to titles containing exclamatory sentences and other types.

H7 supported the hypothesis that topics and subtitles played a significant role in short video production and dissemination. Based on statistical analysis of the examined samples, it was found that 99.6% of the short videos had titles with topic features, and 85.6% of the videos included subtitles. This strong proportion indicates that topic-focused titles and the addition of subtitles have become significant trends in the production and dissemination of furniture brand short videos. They are potentially playing a crucial role in enhancing dissemination effectiveness, expanding audience coverage, and improving information delivery efficiency. From a statistical significance perspective, it can be reasonably inferred that strategies involving topic-focused titles and subtitles play a necessary and important role in the short video dissemination process. Specific data can be found in Table 4.

### Center Path Propagation Effect Analysis

From the perspective of the central path theory of information processing, different content themes have a significant difference in the short video communication effect of furniture brands. Specifically, the content of scenes and the skills of choosing videos are more likely to attract the attention of the audience, while the content of welfare broadcasting and daily life has also been widely favored by people. Based on this conclusion, this study puts forward the following strategic suggestions:

1. Content innovation and clear positioning: when planning short videos, furniture brands should give priority to making scene content, integrate products into real life scenes, intuitively show their functional and aesthetic values, and share them with professional and practical purchasing skills, so that consumers can get valuable information from

them, thus improving users' attention and interaction rate.

2. Combining hot spots with promotional activities: combining welfare broadcasting content, the authors plan to publish short videos to attract consumers, such as coupons and discount activities, and enhance users' stickiness and willingness to convert through immediate interest stimulation. At the same time, the idea is to show the application examples of products in daily life, convey the image of the brand and the practicality of the products in life, and narrow the distance with consumers.
3. User demand orientation: continuously pay attention to and tap the interest points and consumption needs of the target group, and flexibly adjust the content strategy to ensure that the short video created can not only meet the needs of consumers for improving the quality of home life, but also reflect the unique value proposition of the brand. For example, some scholars have studied the preferences of consumers with different personal characteristics for furniture purchase (Yu *et al.* 2023).
4. Innovative integration and interactive design: try to organically integrate the above three content types, such as introducing shopping skills into scene display and matching with timely welfare activities to form a diversified communication strategy. At the same time, users are encouraged to participate in the interaction, such as setting up topic discussion, collecting users' experience, holding creative home matching contest, *etc.*, in order to improve users' participation and stickiness, thus improving the communication effect of short videos.
5. Data-driven optimization: use data analysis tools to track the spread effect of short videos with various content themes, such as the number of views, likes, comments and forwarding times, and dynamically adjust the direction of content creation based on this, so as to ensure that brand short videos can always keep up with market trends and effectively reach and influence potential consumers.

### Edge Path Propagation Effect Analysis

From the perspective of edge path, short videos with video duration of 31 seconds to 60 seconds and 16 seconds to 30 seconds were found to have a significant positive effect on communication effect. At the same time, the short video in the form of graphic combination and live broadcast also had a positive impact on the communication effect. In addition, the use of lively emotional background music as the soundtrack of short videos has been shown to significantly improve the spread of short videos. At the same time, the title type drawn up by a declarative sentence has a very significant negative effect on the short video communication effect. In view of the above discussion, the following specific suggestions are put forward:

1. Duration optimization: When making short videos, furniture brands should give priority to controlling the video duration within the range of 31 seconds to 60 seconds or 16 seconds to 30 seconds, so as to ensure that the content not only has enough information, but also conforms to the habit of users' rapid consumption, thus enhancing the viewing completion and sharing willingness.
2. Innovation of content form: Strengthen the creation of short video with illustrations and live broadcast, make full use of the advantages of visual impact and real-time interaction, effectively convey brand information, improve user participation and retention time, and also use more advanced technologies, such as virtual reality

technology, to apply wood design to the furniture field to enhance the immersive experience (Chen and Wu 2018).

3. Music selection: Carefully select lively and infectious background music and use musical emotions to arouse the emotional resonance of the audience, so as to increase the attraction and communication potential of short videos.
4. Title strategy adjustment: In view of the negative impact of declarative sentence titles on short video communication, it is suggested to adopt more creative and suspenseful ways in title design, such as interrogative sentences, exclamatory sentences or short and pithy expressions rich in keywords, so as to attract the attention of potential users and stimulate their desire to click and share.
5. To sum up, in the process of short video marketing, furniture brands should make full use of short video as a communication medium, helping the viewer to accurately grasp the relevance between content themes and their interests. The brands should carefully design content that meets consumers' expectations. The goal is to enhance the communication effect of short videos and finally realize the promotion of brand image and the growth of sales performance. At the same time, furniture brands should fully consider the influence of the above factors, and formulate accurate and effective communication strategies accordingly, so as to maximize the communication effect and brand influence of short videos.

### Limitations and Prospects

In this paper, the analysis of the short video communication effect of furniture brands, despite some efforts in theoretical framework and empirical methods, still has some limitations that cannot be ignored.

First of all, in the process of selecting sample data, due to the limitation of research time and resources, the short video communication cases and user feedback data adopted may be limited to a specific time period, which may lead to certain timeliness and limitations for the short video communication effect in a longer time span or in different market environments.

Secondly, due to the constraints of actual research conditions, the sample size of this study was relatively small. Although the authors attempted to ensure the representativeness of the sample, the small sample size may have a certain impact on the stability and universality of the statistical results, and it is difficult to fully reflect the overall picture of the short video communication effect of furniture brands in a larger group.

Furthermore, this study attempted to explore the influencing factors and mechanism of short video communication of furniture brands by using ELM model. However, because the model was still in the initial stage of empirical research in the field of social media communication, especially for short video, a new media form, the current research setup may have the problem of poor item replication. That is, the reliability and consistency of the model in explaining and predicting the short video communication effect in different situations need to be further improved.

Despite the above limitations, this study has provided a useful theoretical basis and practical enlightenment for further exploring the short video communication effect of furniture brands. Future research can be deepened and improved from the following aspects: first, broaden the scope of research period, collect data that span a longer period, and cover different market environment changes, in order to obtain more stable and extensive conclusions. The second is to expand the sample size and improve the

representativeness and popularization value of the research conclusions through more field research and data analysis. The third is to optimize and improve the research design based on ELM or other applicable models, and enhance the accuracy and stability of the model in describing and predicting the short video communication effect of furniture brands (Gong *et al.* 2022). Furthermore, research has indicated that user experience can enhance the influence of new media (Zhu and Hou 2021). In addition, with the development of technologies such as 5G and AI and the continuous innovation of short video platforms, how to combine new technologies and trends to explore more innovative short video communication strategies and evaluation systems is also an important direction worthy of further study in the future.

With the rapid development of new media technology and the continuous change of social consumption habits, the communication strategy of furniture brands on short video platforms will also face new opportunities and challenges. Therefore, future research should pay close attention to the development trend of the industry, constantly update research methods and perspectives, and provide more scientific and accurate decision-making basis for furniture brands to enhance their brand image and broaden their market influence by using short videos.

## CONCLUSIONS

1. This study used elaboration likelihood modeling (ELM) and regression analysis to reveal eight key influencing factors of furniture brand short videos in terms of communication effectiveness: content quality, content theme, video duration, background music type, subtitle category, topic category, production type, and title type.
2. Among them, elements such as live broadcast, graphic display, short duration of 16 to 60 seconds, subtitle topic addition, lively background music, and exclamatory captions have a significant positive effect on enhancing the communication effect of short videos.
3. Under the center path perspective, short videos with scenario-based content and shopping tips have the best dissemination effect, while those with benefits and daily life content are the second most effective, indicating that there are significant differences in the dissemination effect of different content themes.
4. Under the edge path perspective, short videos with a duration of 31 to 60 seconds show the most significant positive spreading effect, followed by those with a duration of 16 to 30 seconds, whereas those with a duration of more than 181 seconds show the worst spreading effect. At the same time, lively and emotional background music, graphic and text combinations, and live broadcasting short videos can also effectively improve the spreading effect. Exclamatory captions can significantly enhance the communication power of short videos, while declarative captions have a significant negative effect on the communication effect.
5. There are limitations in this study, including the time period of sample data selection, sample size, and entry replication in the application of the ELM model, while more influencing factors can be considered.

- The study verified the significance of the influence of key influencing factors on the communication effect of short videos. The results of the study can provide a reference for the communication strategy of furniture brands in short video platforms.

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