

# ***Research on the Influence of Key Opinion Leaders on Consumers' Purchase Intention in Third-Party Traffic***

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**Abstract:** Brands can use third-party platform traffic to carry out marketing campaigns. One of the current marketing strategies with excellent promotional impact is the Key Opinion Leader Marketing Model on the Douyin platform. This paper aims to research the influence of Key Opinion Leaders on consumers' purchase intention in third-party traffic. This paper examines the impact of the platform's KOL on consumers' purchase intentions during this soft promotion using the database of the Douyin platform. Based on the Encoding-Decoding Theory, this paper refines the research direction into two questions: the first concerns the relationship between consumers' purchase intention and KOL level, and the second addresses the connection between consumers' purchase intention and consumers' sense of identity and professionalism among KOLs. The results show that after the quantitative analysis of the research questions when choosing KOLs for promotion, brands should clarify the purpose of promotion and consider the characteristics of KOLs in different content directions.

**Keywords:** key opinion leader, consumers' purchase intention, social media, short video platform, advertising promotion

## **1. Introduction**

Platforms for live streaming and short videos have proliferated in recent years. A noteworthy development is the growing acceptance of the Key opinion Leader marketing strategy that uses short videos. KOL, an abbreviation of Key Opinion Leader, is conceptualized as representative individuals who can influence the thoughts and behaviors of others [1]. KOLs are mainly active on social media platforms, such as Weibo, Douyin, YouTube, and Instagram. They usually have a large fan base and attract the attention and recognition of many users through high-quality and unique content.

Because the KOL Marketing Model is famous and influential nowadays, what kind of selection criteria brands should base on to choose suitable KOLs in different scenarios has become a very researchable issue [2]. At present, some scholars have already done research on the connection relationship between KOL and brand promotion. Liu studied the audience's willingness to accept brand promotion in implantable short videos, and Jin et al. studied uncertain KOL selection with multiple constraints in advertisement promotion [3-5]. All these scholars have conducted specific studies on the selection or influence of KOLs based on specific scenarios, such as under the Instagram Store, live streaming commerce, product design sessions, Weibo hotspots, and medical-pharmaceutical identification [6-10]. However, at present, no study focuses on this aspect of the

influence of KOLs on consumers' purchase intention in video soft placement ads in short video platforms, that is, in third-party traffic. Moreover, there is much demand for this aspect of brand promotion in the market. Namely, the actual situation of this specific relationship between third-party traffic and sales promotion is an issue that is well worth researching and exploring. Addressing this aspect of the research can provide relevant guidance on selecting KOLs when brands face product promotion through third-party platforms.

One of the most illustrative venues for short video content is Douyin (TikTok). According to data published by Apptopia, TikTok tops the list of top 10 global app downloads in 2022 with 672 million downloads [11]. On Douyin, traffic generated by KOLs for brand promotion is generally categorized as third-party traffic. Third-party traffic refers to the traffic brought to a brand by cooperating with a third-party platform or by leveraging the third-party platform's influence, user base, and traffic distribution capabilities. KOLs are very valuable to brand promotion, as they have a high level of influence and appeal and can bring high traffic and exposure to the brand. By cooperating with KOLs, the brand can establish a better connection with the target users and increase brand awareness, user loyalty, and traffic distribution. Precisely because the Douyin platform is a representative short video platform with many brand cooperation and promotion cases, this paper chooses the data of the Douyin platform as a sample to proceed with this research.

In this paper, the data dimensions needed for the analysis are further filtered out, and the research questions are further divided into two distinct directions: the first is whether KOLs with significant exposure traffic would correlate with strong purchase intentions. The other is that, according to the Encoding-Decoding theory, how much are the two variables, consumers' sense of identification with the KOL and the professionalism of the KOL, positively correlated with purchase intentions? To better explore the two research questions of this paper, this paper defines three variables: Exposure Traffic  $I$ , Purchase Intention  $p_i$ , and The Amount of Interaction  $E$ . After random sampling and cross-section comparison of multiple quantities of celebrities, it finally concluded that it is not the case that KOLs with high exposure traffic will correspond to a solid willingness to buy. Moreover, there are differences in the influence of factors related to KOLs in different content directions on purchase intention. The results of this paper show that when brands choose KOLs for promotion, they should first clarify whether the purpose of promotion is to increase awareness or to convert them into actual money for other purposes. The selection criteria of KOLs for different needs will also be very different.

## 2. Methods

### 2.1. Method Process

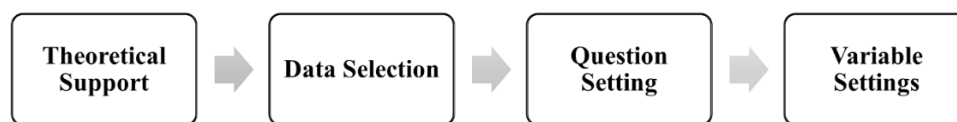


Figure 1: Overview of the research methodology and the research process for this paper.

As shown in Figure 1, the method section of this paper can be summarized in four parts, starting with an introduction to the theory that supports the setting of the research questions: the Encoding-Decoding theory, followed by a description of the data selected for the paper and the dimensions selected. The two research questions at the heart of the paper are then described, and ultimately, several variables based on the research questions are offered, along with the justification and factors that went into setting them.

## 2.2. Theoretical Support

Encoding-decoding theory is a theoretical framework proposed by communication scholar Stuart Hall to shed light on the processes associated with cultural interpretation, meaning construction, and information dissemination. The theory emphasizes that the dissemination of information is more than the simple transmission of messages but involves both encoding and decoding of information. In the encoding stage, the generator of the message (the encoder) transforms the message into specific forms, such as symbols, language, and images, based on his or her cultural experience, ideology, and values to convey specific meanings and messages. In the process of encoding, the background and cultural context of the encoder play an essential role in the expression and selection of information. In the decoding stage, the receiver of the message (decoder) interprets and understands the encoded message according to his or her background, culture, and experience. During the decoding process, the decoder understands and interprets the message based on his/her understanding, cultural background, and language ability, and therefore, different understandings and meanings may be produced. Based on the Encoding-Decoding theory and in similar contexts, previous scholars have based their divisions on the Dual-System theory [12]. This paper divides the variable factors in research question 2 into two dimensions, one from the encoder's point of view, namely, based on the KOL itself: the KOL's professionalism, and the other from the decoder's point of view, namely, from the consumer's point of view: the consumer's identification with the KOL. In a later section of the study, the introduction of Q2 and the description of these two variables will be expanded upon.

## 2.3. Data Selection

To ensure the validity of data comparison, this paper selects KOLs in the same segment and all the selected KOLs whose content type is beauty. At the same time, in order to ensure the validity of the variables, this paper divides the KOLs into three levels by the division of the volume of the fan volume, which is divided into three grades: 100w-500w, 500w-1000w, and more than 1,000w. And, according to the requirements of this paper, based on the collected data, eight data dimensions were selected for this paper, specifically: The number of fans, Star Map video views (star chart video refers to the video in which the KOLs and the brand make commercial cooperation), the number of likes of the star Map video, the number of comments of the star Map video, the number of recent commercial orders of the star Map video, and KOL's grassroots marketing index in the last 30 days (the grassroots marketing index refers to the number of the comprehensive assessment of the creator's content component clicks, transactions, content playback interactions, and other data to assess the grassroots marketing ability of the KOL), the KOL's conversion CPC (CPC refers to the cost of clicking on the product links in the commercial orders received by the KOL)

## 2.4. Question Setting

This paper explores the influence of KOLs on consumers' purchase intention when brands leverage KOL marketing to gain traffic in the Douyin platform. Due to the overly broad scope of the impact inquiry, this paper further refines this inquiry into two questions:

Q1: Whether KOLs with high exposure traffic will correspond to a firm purchase intention. If not, what is the actual correlation?

Q2: Based on the Encoding-Decoding theory, how much do the factors of KOL's related variables affect consumers' purchase intention, which means how much do the two factors of KOL's professionalism and consumers' sense of identification with the KOL positively correlate with purchase intention?

## 2.5. Variable Settings

Based on the selected data, this paper further represents the factors involved in Q1 and Q2 data. There are two variables in Q1, which are exposure and purchase intention, this paper uses  $I$  to denote the exposure, and the view volume of the Star Map video can reflect the exposure, and because the number of commercial lists on the Star Map platform has a large difference between the KOLs, so in order to make the variables have the validity, this paper uses the average of the number of views of the commercial orders in the last fifteen issues, but not all KOLs have fifteen commercial lists, so in order to ensure the accuracy of the average value, this paper defines the commercial order as  $Bu$ , and the number of views of the commercial order as  $Bu_{Pv}$ , the number of commercial orders as  $Bu_N$ , then  $I$  can be expressed by the formula as follows:

$$I = \frac{\sum_{i=0}^n (Bu_{Pv_i} + \dots + Bu_{Pv_n})}{Bu_N} \quad (1)$$

As for purchase intention, this paper defines it as  $Pi$ , and the grassroots marketing index as  $F$ . This paper quantifies purchase intention with the grassroots marketing index and CPC because the grassroots marketing index refers to the index that comprehensively evaluates the data of clicks on the content components of the creators, transactions, and content playback interactions, and evaluates the ability of KOL to grassroots in order, which means that according to the grassroots marketing index, the influence of KOL on consumer's purchase intention is to a certain degree reflected, and the grass-planting index and the purchase intention are positively correlated. CPC is the abbreviation of "Cost Per Click", which means the cost of clicking on a product link each time a consumer watches a video. This index involves two dimensions of data: the KOL price and the number of KOL-enabled orders. The reason for choosing this index to quantify purchase intention is that the higher the volume of KOLs, the higher the price, and the wider the range of consumers they reach, so it's not reasonable to look at the purchase intention from the number of orders alone, and the use of CPC is a relatively reasonable and fair way of evaluating the purchase intention. CPC represents the cost, and CPC and purchase intention are negatively correlated, so the purchase intention can be expressed by the formula:

$$p_i = \frac{F}{CPC} \quad (2)$$

There are three variables involved in Q2: KOL professionalism, consumer identification with the KOL, and purchase intention. For the measure of KOL's professionalism, this paper will use the ratio of videos in the category of KOL tags to total videos for comparison, which means the ratio of content belonging to content tags to all videos.

For the consumer's identification with KOL, this paper uses the amount of interaction to measure, here the amount of interaction refers to the sum of the number of viewers interacting with the KOL after watching the corresponding video, this includes the total amount of star map video likes, star map video comments, and the total amount of star map video retweets, in this case, the amount of interaction will be denoted by  $E$ . The number of likes will be denoted by  $El$ , the number of comments will be denoted by  $Ec$ , and the number of retweets will be denoted by  $Es$ . So the amount of interaction will be denoted by the formula is expressed as:

$$E = \frac{arg\{(\sum_{i=0}^n El_i + \dots + El_n) + (\sum_{i=0}^n Ec_i + \dots + Ec_n) + (\sum_{i=0}^n Es_i + \dots + Es_n)\}}{Bu_N} \quad (3)$$

### 3. Experiment Results and Analysis

#### 3.1. Experiment Description

To explore Q1: Whether KOLs with high exposure traffic will correspond to a firm purchase intention, and if not, how the actual correlation is. Three control groups were set up. Namely, 100-500w, 500-1000w, and more than 1000w of fans. Among these three tiers of KOLs, a random sampling of KOLs was conducted with the same proportion (10%) for each tier. Preliminary statistics showed that a total of 1,140 of 100-500w, 59 of 500-1000w, and 11 of more than 1,000w carried out the control experiments; to ensure the validity of the data analysis, those with invalid information, namely those who lacked information on the variables required for the study, were excluded. The final data with sampling conditions were 958 KOLs with 100-500w fans, 49 KOLs with 500-1000w fans, and 10 KOLs with more than 1,000w fans. According to the ratio of 10% random sampling among the three levels, the 100-500w level is denoted by C, the 500-1000w level is denoted by B, and more than 1000w level is denoted by A.

To explore Q2: Based on the Encoding-Decoding theory, how much do the factors of KOL's related variables affect consumers' purchase intention, which means how much do the two factors of KOL's professionalism and consumers' sense of identification with the KOL are positively correlated with purchase intention? Among the 4,000 beauty KOLs, there are four directions: 1. Beauty Tutorials 2. Make-up Demonstrations 3. Skincare and Maintenance 4. Beauty Product Reviews and Recommendations. The preliminary statistics of this paper screened out a total of 1,687 KOLs in Category 1, 1,271 KOLs in Category 2, 1,775 KOLs in Category 3, and 2,347 KOLs in Category 4, and there are KOLs with overlapping labels here, as the singularity is not maintained in consideration that this does not affect the results; however, in order to ensure the validity of the data, the KOLs with invalid information are excluded, and there were 1,341 KOLs in Category 1, 992 KOLs in Category 2, 1,641 KOLs in Category 3, and 2,049 KOLs in Category 4. In each direction, a random sample is drawn proportionally, and here the proportion is 5%; the Beauty Tutorials is denoted by a, the Make-up Demonstrations is denoted by b, the Skincare and Maintenance is denoted by c, and the Beauty Product Reviews and Recommendations is denoted by d. The positive correlation between the KOL's professionalism and the purchase intention and the positive correlation between the consumer's identification with the KOL and the purchase intention are counted in the sample.

#### 3.2. Q1 Result and Analysis

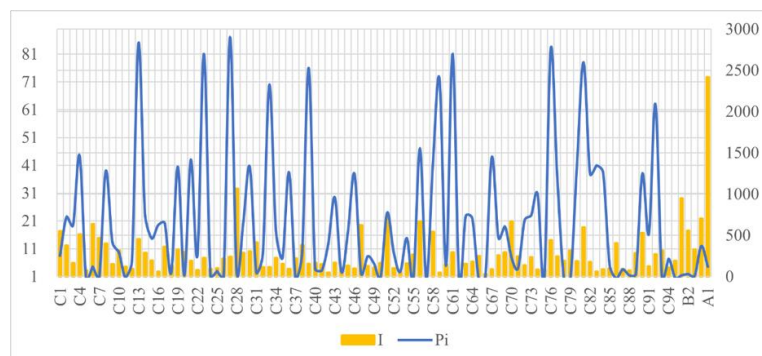


Figure 2: The degree of correlation between exposure  $I$  and purchase intention  $P_i$ .

As shown in Figure 2, the x-axis represents the KOLs corresponding to quantities A, B, and C after random sampling, the y-axis (left side) represents the value corresponding to  $P_i$ , and the y-axis (right side) represents the value corresponding to  $I$ . Based on the trends illustrated in the figure, it can be



learned that the exposure traffic and purchase intention of C-level KOLs roughly conform to the positive correlation. However, there is some abnormal data, namely, the positive correlation between the exposure traffic and purchase intention of B-level and A-level is not apparent. KOLs with high exposure traffic do not correspond to firm purchase intention. The results of this question show that, for brands, when choosing KOLs for promotion, they should first clarify whether the purpose of promotion is to increase awareness or convert it into actual money or other purposes and the selection criteria of KOLs corresponding to different needs will also be very different.

### 3.3. Q2 Result and Analysis

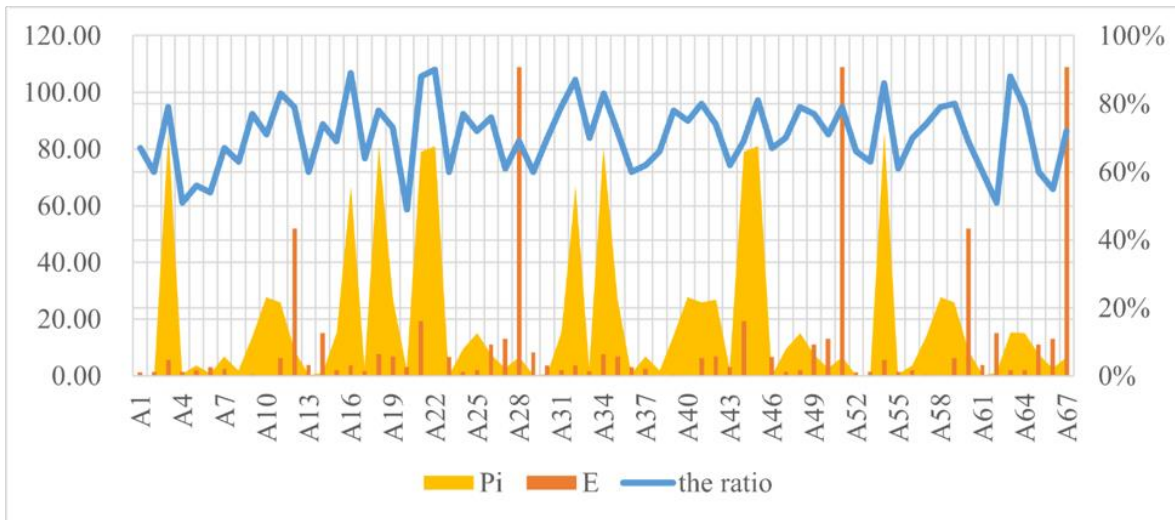


Figure 3: The correlation between purchase intention  $Pi$  and interaction  $E$ /the ratio of videos in the a category.

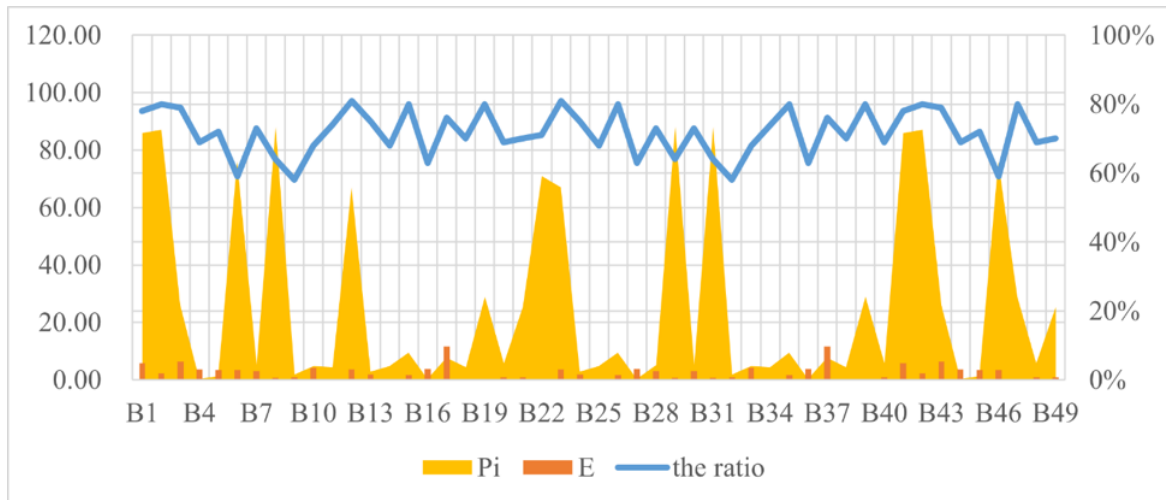


Figure 4: The correlation between purchase intention  $Pi$  and interaction  $E$ /the ratio of videos in the b category.

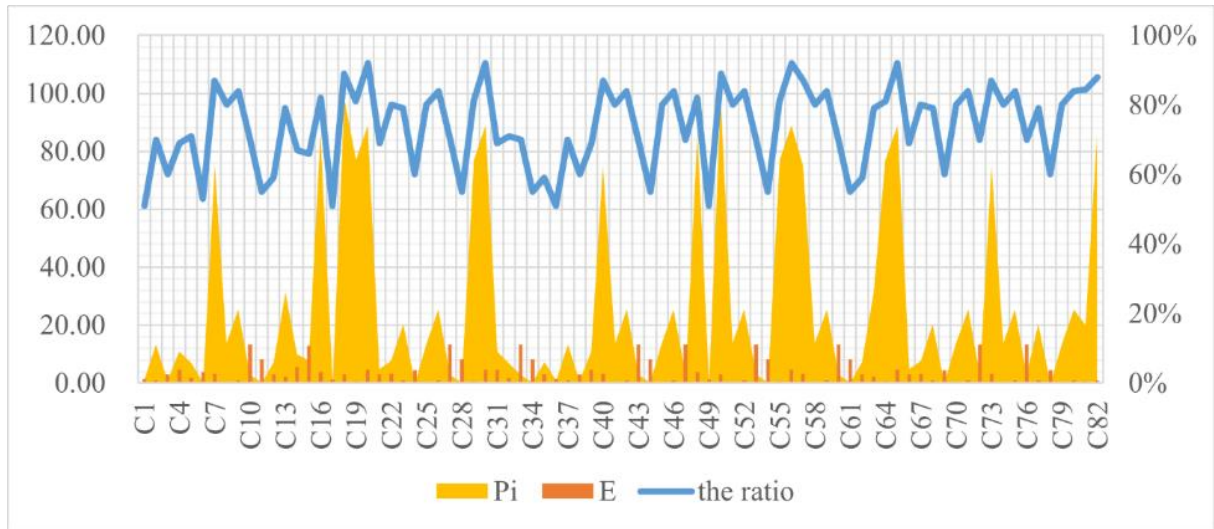


Figure 5: The correlation between purchase intention  $Pi$  and interaction  $E$ / the ratio of videos in the c category.

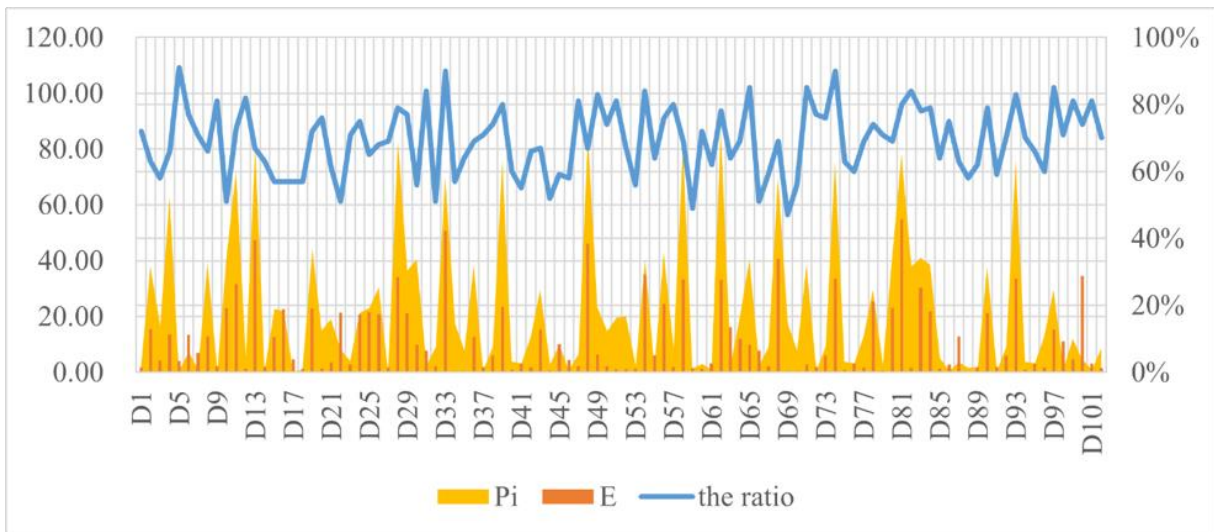


Figure 6: The correlation between purchase intention  $Pi$  and interaction  $E$ / the ratio of videos in the d category.

As shown in figures 3-6, there is a strong positive correlation between KOL's professionalism and consumer purchase intention in categories A, C, and D. However, there is no apparent positive relationship between KOL's professionalism and consumer purchase intention in Category B. The reason for this result from the perspective of encoding-decoding may be because in the perspective of the decoder (the consumer), when watching a video of this type that shows makeup, the focus is on the before and after comparison and, therefore, neglects to pay attention to the product content implanted by the KOLs. Regarding the positive correlation between consumers' identification with KOLs and their purchase intention, there is a clear positive correlation between consumers' identification with KOLs in category d and their purchase intention. At the same time, there is no significant relationship between identification with KOLs in categories a, b, and c and their purchase intention.

#### 4. Discussion

The results feature some aberrant data, and it is essential to investigate and discuss the causes of this phenomenon. This paper employs the questionnaire research approach to analyze these data based on the pertinent topics they provide. Table 1 lists the questionnaire's questions:

Table 1: Specific question set for the questionnaire, 13 questions in total.

1. Do you usually watch Douyin short videos?	8. What is the reason for your willingness?
2. Have you ever purchased products recommended by KOLs while watching short videos?	9. When you watch a makeup display beauty KOL, are you willing to buy the products recommended by him/her?
3. What is your gender?	10. Would you be more likely to buy from a makeup display KOL because of his/her professionalism?
4. What is your age group?	
5. When you watch KOLs' videos in the beauty category, would you be more likely to buy products recommended by KOLs with a large number of followers(>500W)?	11. What influences you not to consider the KOL's professionalism?
	12. Would you be more likely to buy from a makeup display KOL because of his/her identification(favoritism) with him/her?
6. What is the reason for your reluctance?	13. What influences you not to consider the KOL's identification?
7. When you watch KOL videos in the beauty category, would you be more likely to buy products recommended by KOLs with an average number of followers(100-500W)?	

After posting this questionnaire on the internet, 292 raw response data were collected, and after excluding invalid responses, there were 239 data in the questionnaire. Questions 7, 9, 12, and 14 are highly relevant to this paper's research questions. Specifically, 7 and 9 were used to validate the anomalous data in Q1; 12 and 14 were used to validate the anomalous data in Q2. In this paper, the collected data is visualized as a graph, as shown below.

Since the number of people who answered 7 is less than a quarter of the total number of valid copies, this paper considers that the data obtained from the questionnaire does not have reference value, so it does not use charts for display. As shown in Figure 7, from the data of answer 8, it can be analyzed that 65% of the respondents chose the reasons related to the product itself, which cannot provide a meaningful conclusion for the KOL's reasons that need to be reflected in this paper.



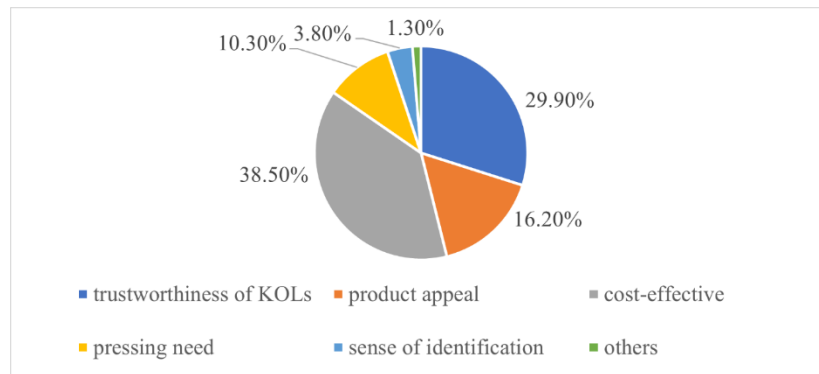


Figure 7: The data for question 8 after counting the samples in the form of a pie chart.

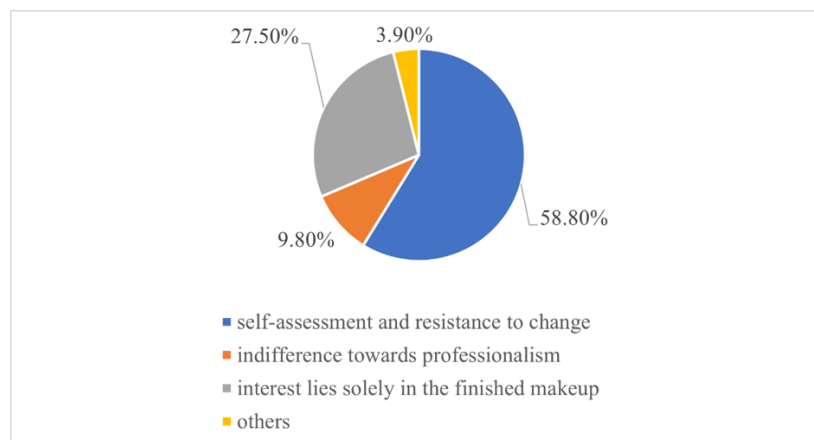


Figure 8: The data for question 11 after counting the samples in the form of a pie chart.

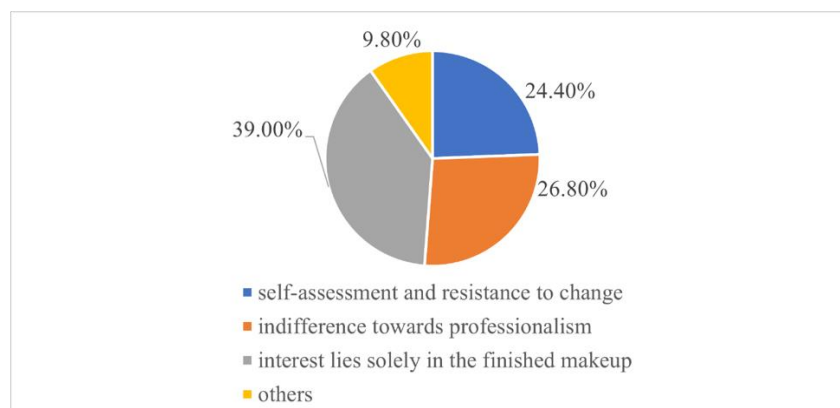


Figure 9: The data for question 13 after counting the samples in the form of a pie chart.

As shown in Figures 8 and 9, from the analysis of the response data of 11 and 13, one of the two most significant factors that caused this reason is highly coincident with the reason deduced in this paper based on the Encoding-Decoding (ED) theory, and the other reason can be understood as the consumer's subjective willingness to dominate in the willingness to buy. Overall, based on the questionnaire survey in this paper, some preliminary directional reasons can be obtained but cannot be further elaborated, which reveals that qualitative as well as cross-sectional research methods can

be used to deepen the exploration of the issues related to the KOL magnitude and category and consumers' purchasing intention in the future research.

## 5. Conclusion

This paper explores the development of webcasting and short-video platforms in recent years, focusing on the influence of key opinion leaders (KOLs) on the Douyin platform on the third-party traffic generated by brand promotion. The research questions are divided into two directions: the first is to explore whether KOLs with high exposure traffic correspond to firm purchase intention, and the results show that not all KOLs with high exposure bring firm purchase intention; the second is to analyze the degree of influence of KOL's related variable factors on consumers' purchase intention based on Encoding-Decoding theory. The results show a correlation between KOL's professionalism, consumers' identification with KOL, and purchase intention, but the relationship between professionalism and purchase intention is not significant in displaying makeup. Meanwhile, consumers' identification with KOL and purchase intention are more significant in the category of beauty assessment seeding. Comprehensive analyses show that when choosing KOLs for promotion, brands should clarify the purpose of promotion and consider the characteristics of KOLs in different content directions. This paper provides valuable guidance for brands in choosing KOLs.

However, there are some abnormal data in the research conclusion; this paper creates a questionnaire based on the problems reflected in these data and then puts it on the network. This paper can get some preliminary directional reasons about KOL fans' quantitative level and purchasing intention from the collected answer sheets. However, it cannot be further subdivided into specific definitive conclusions, which reveals that future studies should strengthen qualitative and longitudinal research. It provides a new research direction for future in-depth research in this field.

Overall, this paper investigates, from a large amount of data, the impact of KOLs on consumers' purchase intention when brands softly promote with third-party traffic on the Douyin platform and explore the relationship between KOLs' professionalism, consumers' identification with KOLs, and purchase intention. These findings provide important references for brands when choosing appropriate KOLs for promotion and offer new ideas for further exploring the relationship between brand promotion and third-party traffic.

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