



## Neutrosophic analysis of the factors determining the development of humorous discourse in videos using the TOPSIS method

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### Abstract

YouTube is moving towards personalized media. In 2011, Enchufe TV became an Ecuadorian online comedy series known for its witty humor. Taking advantage of the openness of the Internet, the video is currently available to watch on the YouTube platform. The purpose of this study is to conduct an unbiased analysis of the factors that determine the development of humorous discourse in TV Antufe's YouTube videos using the TOPSIS method. To understand the growth of the show and its audience, we compared its premiere year to 2022 across 10 years. At the same time, data such as comedy type, language level, audio-visual narrative, and humorous discourse were collected to quantitatively understand the popularity and influence of the play at the time. There. Variables such as views, audience engagement, and subscriber base growth are analyzed, as well as objective measures of content relevance and influence within the platform environment. Enchufe TV's decline in user activity can also be explained by several factors, such as the emergence of new platforms and content saturation. We also found that blue spoken words were the most widely used, with popularity varying by year of study.

**Keywords:** Neutrosophic; TOPSIS; Television; Humor; Language; History.

### 1. Introduction

Language is the innate human ability that enables us to communicate our feelings, thoughts, and opinions through language. This is the signaling system we use to interact with others and think for ourselves. Like spoken languages, auditory and visual languages have their vocabulary and grammar. Framing, camera angles, color, visual effects, and the use of sound are important elements in constructing meaning and creating a coherent visual story. Every decision in audiovisual production, from the choice of location to the choice of music, has a communicative and aesthetic purpose. Narrative and audiovisual language are based on common rules and standards developed over more than a century of film development [1].

Audiovisual comedy aims to make the audience laugh and entertain through humorous situations, witty dialogue, and visual elements. This type of production spans a variety of formats and genres, including situation comedies, sketch films, sitcoms, sitcoms, online videos, etc. Each production method uses different techniques and techniques to achieve comedic effects.

Humor is defined as humorous messages that evoke positive emotions in people. They note that humor is not necessarily intended to create empathic connections and recommend applying scientific principles of humor in

leadership presentations and the workplace. We strive to create a fun and engaging environment. This is good[2].

Humor and laughter are integral parts of culture, but their role in leadership and management processes and practices is often overlooked. Laughter is an act that occurs systematically, perhaps as part of a sequence of acts, that is, an act that is socially organized both at the level of concrete production and at the level of production more generally.

Using humor in speech is a practical resource that can soften the blow of reality and promote self-reflection. Build a strong connection with your audience through humorous strategies. The YouTube platform is a form of distribution. This enables videos to be shared on any social network, thereby laying the foundation for the future and paving the way for new forms of communication in the technological age.

YouTube has evolved from a mainstay in the music industry to a personal environment where consumers can freely express their opinions and make decisions based on their preferences and beliefs. The concept of "YouTuber" was introduced and a community of like-minded people was formed. In addition, unlike traditional prime-time TV, YouTube can be watched at any time, changing entertainment consumption habits.

Especially on social media, you need to know that new members are joining every day, and your audience and media literacy are constantly growing. Users have the opportunity to actively participate in the creation and consumption of content, which affects their engagement and familiarity with the content provided [5].

Enchufe TV is an Ecuadorian outing comedy that aired in 2011 and has become the most popular Ecuadorian channel on the YouTube platform, attracting subscribers from multiple countries. They've had great success adapting to the digital environment, driving YouTube's monetization model, and gaining international recognition.

Humorous audiovisual products such as Enchufe TV have a social impact on consumers who recognize the characters and scenes depicted in them [6]. This has implications for the emergence of new stereotypes and brand positioning in the field of humor. These shows have become a fixture in the entertainment industry, bringing laughter and fun to audiences of all ages.

## 2. Related Work

The exploration of humorous discourse in YouTube videos aired on television channels sparks a profound interest that transcends the conventional boundaries of comedy. This contemporary cultural phenomenon reflects the convergence of media and the evolution of entertainment forms in the digital age. In this context, neutrosophic analysis emerges as a promising tool to unravel the diverse factors influencing the development and reception of humor in these videos.

The TOPSIS [7] method offers a systematic approach to examine the neutrosophic elements underlying humorous discourse on YouTube and its adaptation on television channels. By considering the triad of truth, indeterminacy, and falsehood, a range of possibilities is opened to understand the inherent complexity in creating and perceiving humor. This approach, propelled by Smarandache's neutrosophic theory, allows for exploring the multiple layers of meaning and interactive dynamics characterizing contemporary humor in both digital and television spaces.

Delving into the analysis of these factors necessitates considering both the intrinsic elements of humorous content and the cultural and social contexts shaping its reception. From language choice and comedic style to audience interaction and cultural trends, each aspect contributes uniquely to the humorous experience. This holistic approach acknowledges the interconnectedness between content, distribution medium, and audience, painting a rich and nuanced picture of comedy in the digital age.

Ultimately, neutrosophic analysis of the determinants of humorous discourse in YouTube videos on television channels invites us to adopt a critical and reflective lens on the role of humor in contemporary society. Beyond mere jokes and antics, humor becomes a mirror reflecting our concerns, values, and social dynamics. Through this exploration, we can glimpse not only the evolution of entertainment but also the complexities of the human condition in an increasingly interconnected world [8].

**Definition 1[9]:** Let  $U$  be a discourse universe. A single-valued neutrosophic set is defined as  $N = \{(x, T(x), I(x), F(x)) : x \in U\}$ , which is identified by a truth-membership function,  $TN : U \rightarrow [0, 1]$ ; indeterminacy-membership function,  $IN : U \rightarrow [0, 1]$ ; and falsity-membership function,  $FN : U \rightarrow [0, 1]$ , with  $0 \leq TN(x) + IN(x) + FN(x) \leq 3$

Definition 2[10]: Suppose  $A_1 = (a_1, b_1, c_1)$  and  $A_2 = (a_2, b_2, c_2)$  are two Single Valued Neutrosophic numbers SVN numbers, then the sum of  $A_1$  and  $A_2$  is.

$$A_1 + A_2 = (a_1 + a_2 - a_1a_2, b_1b_2, c_1c_2) \tag{1}$$

Definition 3[10]: Suppose  $A_1 = (a_1, b_1, c_1)$  and  $A_2 = (a_2, b_2, c_2)$  are two SVN numbers, then the product between  $A_1$  and  $A_2$  is defined as:

$$A_1 * A_2 = (a_1a_2, b_1 + b_2 - b_1b_2, c_1 + c_2 - c_1c_2) \tag{2}$$

Definition 4 [10]. Let  $A=(a,b,c)$   $\lambda \in \mathbb{R}$  be an SVN number and any positive real number.

$$\lambda A = (1 - (1 - a)^\lambda, b^\lambda, c^\lambda), \lambda > 0 \tag{3}$$

Definition 5 [11]. Let  $A = \{A_1, A_2, \dots, A_n\}$  be a set of n SVN numbers. Here,  $A_j = (a_j, b_j, c_j)$  ( $j = 1, 2, \dots, n$ ). The Neutrosophic weighted average operator is defined as:

$$\sum_{j=1}^n \lambda_j A_j = \left( 1 - \prod_{j=1}^n (1 - a_j)^{\lambda_j}, \prod_{j=1}^n b_j^{\lambda_j}, \prod_{j=1}^n c_j^{\lambda_j} \right) \tag{4}$$

the weight of  $A_j$   $\lambda_j (j= 1, 2, \dots, n)$ ,  $j \lambda \in [0, 1] \sum_{j=1}^n \lambda_j = 1$ .

Definition 6 [12, 13]. Consider  $A$  as a single-valued neutrosophic number, denoted by  $(T, I, F)$ . The scoring function  $S$  for this single-valued neutrosophic number is defined based on the truth-membership degree, indeterminacy-membership degree, and falsity-membership degree.

$$S(A) = \frac{1+a-2b-c}{2} \tag{6}$$

Where  $S(A) \in [-1, 1]$

Linguistic variables are variables whose meaning is represented by words or expressions in natural or artificial language rather than numbers. The value of a language variable is represented as an element of its expression set. The concept of linguistic variables helps solve complex decision-making problems. For example, linguistic variables such as “very important”, “important”, “moderate”, “not important” and “not very important” can be used to evaluate the effectiveness of alternatives based on qualitative criteria [14]. The linguistic variables used in the case studies are:

Table 1: Neutrosophic Linguistic terms.

Linguistic term	SVNS
Very very low (VVH)	(0.9; 0.1; 0.1)
Very low (VH)	(0.75; 0.25; 0.20)
High (H)	(0.50; 0.5; 0.50)
Very high (VH)	(0.35; 0.75; 0.80)
Very very high (VVH)	(0.10; 0.90; 0.90)

### 2.1 TOPSIS

The TOPSIS (Total Ordering Score Interval Scale, stands as a significant advancement in decision-making frameworks, particularly within the domain of multi-criteria decision analysis (MCDA) [15]. Rooted in the essence of neutrosophic set theory, the TOPSIS Neutrosophic method revolutionizes conventional decision-making paradigms by accommodating the inherent uncertainties and indeterminacies pervasive in real-world decision environments. This method transcends the limitations of classical approaches by integrating the principles of uncertainty management and vagueness modeling, thereby offering a more nuanced and comprehensive perspective in decision modeling and analysis [16].

On the other hand, the TOPSIS method used by SVNS includes the following components: Let  $A = \{\rho_1, \rho_2, \dots, \rho_m\}$  be the alternative set,  $G = \{\beta_1, \beta_2, \dots, \beta_n\}$  is a set of criteria. Follow these steps[17] :

**Step 1: Determine the relative importance of experts.** For this purpose, the experts were evaluated according to the language scale shown in Table 1 and  $A_t = (a_t, b_t, c_t)$  based on the determination of SVNNS were calculated by reviewing them ( $t = 1, 2, \dots, k$ ). The weight is calculated according to the following formula:

$$\delta_t = \frac{a_t + b_t \left( \frac{a_t}{a_t + c_t} \right)}{\sum_{t=1}^k a_t + b_t \left( \frac{a_t}{a_t + c_t} \right)} \quad \text{where: } \delta_t \geq 0 \text{ and } \sum_{t=1}^k \delta_t = 1 \quad (13)$$

**Step 2. Construct a single-value composite solution matrix for Neutrosophics.** Where is this matrix  $D = \sum_{t=1}^k \lambda_t D^t$  defined  $= (u_{ij}, r_{ij}, v_{ij})$  and used to aggregate all individual estimates? This is calculated by adding up the number of points gained by each expert using the weight of each point  $d_{ij}$  using Equation 13.  $d_{ij}$  Therefore,  $(u_{ij}^t, r_{ij}^t, v_{ij}^t)$  we have a matrix  $D = (d_{ij})_{ij}$  where each point represents an SVNNS  $d_{ij}$ . ( $i = 1, 2, \dots, m; j = 1, 2, \dots, n$ ).

**Step 3: Determine the weight of the evaluation indicators.** We assume that the weight of each criterion  $W = (w_1, w_2, \dots, w_n)$  reflects  $w_j$  its relative importance  $\lambda_t w_j^t = (a_j^t, b_j^t, c_j^t)$ . When dealing with peer review criteria,  $\lambda_t$  uses Equation 14 to calculate  $w_j^t$  the overall weight.  $\lambda_t$ .

**Step 4: Build a Neutrosophic decision matrix based on the weighted average of each criterion.**

$$D^* = D * W, \text{ where } d_{ij} = (a_{ij}, b_{ij}, c_{ij}) \quad (14)$$

**Step 5: Calculate the ideal positive solution and negative solution.** Standards can be classified by cost type or benefit type. We  $G_1$  consider several criteria related to procedure type and fee type  $G_2$  The ideal alternative can be identified as follows [18]:

The result is an ideal correct solution  $G_1$ .

$$\rho^+ = (a_{\rho^+}, b_{\rho^+}, c_{\rho^+}) \quad (15)$$

The negative ideal solution is due to  $G_2$ .

$$\rho^- = (a_{\rho^-}, b_{\rho^-}, c_{\rho^-}) \quad (16)$$

or:

$$\begin{aligned} a_{\rho^+}(\beta_j) &= \begin{cases} \max_i a_{\rho_{iw}}(\beta_j), & \text{si } j \in G_1 \\ \min_i a_{\rho_{iw}}(\beta_j), & \text{si } j \in G_2, \end{cases} & a_{\rho^-}(\beta_j) &= \begin{cases} \min_i a_{\rho_{iw}}(\beta_j), & \text{si } j \in G_1 \\ \max_i a_{\rho_{iw}}(\beta_j), & \text{si } j \in G_2, \end{cases} \\ b_{\rho^+}(\beta_j) &= \begin{cases} \max_i b_{\rho_{iw}}(\beta_j), & \text{si } j \in G_1 \\ \min_i b_{\rho_{iw}}(\beta_j), & \text{si } j \in G_2, \end{cases} & b_{\rho^-}(\beta_j) &= \begin{cases} \min_i b_{\rho_{iw}}(\beta_j), & \text{si } j \in G_1 \\ \max_i b_{\rho_{iw}}(\beta_j), & \text{si } j \in G_2, \end{cases} \\ c_{\rho^+}(\beta_j) &= \begin{cases} \max_i c_{\rho_{iw}}(\beta_j), & \text{si } j \in G_1 \\ \min_i c_{\rho_{iw}}(\beta_j), & \text{si } j \in G_2, \end{cases} & c_{\rho^-}(\beta_j) &= \begin{cases} \min_i c_{\rho_{iw}}(\beta_j), & \text{si } j \in G_1 \\ \max_i c_{\rho_{iw}}(\beta_j), & \text{si } j \in G_2, \end{cases} \end{aligned}$$

**Step 6. Calculate the distance to the ideal positive and negative solutions of NNVS. Use Equations 17 and 18 to calculate the following formula:**

$$d_i^+ = \left( \frac{1}{3} \sum_{j=1}^n \left\{ (a_{ij} - a_j^+)^2 + (b_{ij} - b_j^+)^2 + (c_{ij} - c_j^+)^2 \right\} \right)^{\frac{1}{2}} \quad (17)$$

$$d_i^- = \left( \frac{1}{3} \sum_{j=1}^n \left\{ (a_{ij} - a_j^-)^2 + (b_{ij} - b_j^-)^2 + (c_{ij} - c_j^-)^2 \right\} \right)^{\frac{1}{2}} \quad (18)$$

**Step 7: Calculate the asymptotic coefficient (CP):** Calculate the CP of each alternative using positive and negative optimal solutions [18].

$$\tilde{\rho}_j = \frac{s^-}{s^+ + s^-} \quad (19)$$

or  $0 \leq \tilde{\rho}_j \leq 1$ :

**Step 8: Decide on the order of options.** Options are listed in order of availability  $\tilde{p}_j$ . Alternatives, if any, are listed in descending order.  $\tilde{p}_j$  This is  $\rightarrow$  1 the best solution based on the results of a survey of five groups of Internet users with roughly similar characteristics selected from different regions in Ecuador [14].

### 3 Case Study.

Eight highly qualified IT professionals with extensive industry experience and YouTube training were implementing the update and we were selected to evaluate key components of the process. The following criteria and factors were taken into consideration in preparing the study:

1.	Originality and creativity: Test your channel's ability to deliver new, unique, and humorous content. Does the film introduce new and innovative ideas?
2.	Relevance and relevance. Analyze whether your channel's content is fresh and relevant. Does the video cover relevant topics?
3.	Artistic and Production Quality: Assess the film's technical quality, including editing, image and sound quality, and effective use of visual and narrative elements. Is the video well-made and visually appealing?
4.	The content is diverse and substantial. See if the channel offers a variety of interesting styles and themes. Does the film include a variety of comedy genres and situational comedies?
5.	Participation and public engagement. Analyze audience reactions and interactions with channel content. Does your video capture your audience's attention through comments, likes, and shares?

In the crucible of evaluation, we emerge as the select team tasked with discerning the subtle nuances and unexplored intricacies of an ever-evolving process. Eight highly qualified IT professionals, endowed with extensive industry experience and YouTube training, embarked on the mission of implementing the update, while we were chosen to scrutinize the key components of the process. In this context, the following criteria and factors were meticulously considered in preparing the study.

Primarily, the standard of originality and creativity looms large, standing as the crucible where the most crucial tests of the channel are forged. Does the channel manage to deliver new, unique, and humorous content? Does the film introduce new and innovative ideas that challenge established conventions? Secondly, the veil of relevance and pertinence is unfurled, subjecting the freshness and timeliness of the channel's content to scrutiny. Does the video cover relevant topics that resonate with the current audience and the demands of the zeitgeist? Thirdly, the standard of artistic and production quality is raised, where the technical quality of the film is scrutinized, from editing to image and sound quality, and the effective use of visual and narrative elements. Is the video a work of art in itself, captivating the viewer with its impeccable aesthetics and engaging narrative?

In the crucible of evaluation, the diversity and substantiality of content stand as the foundational pillars upon which the channel's success rests. Does the channel offer a variety of interesting styles and themes that keep the audience engaged? Does the film encompass a diverse range of comedic genres and situational comedies that appeal to different segments of the audience? And finally, in the amphitheater of participation and public engagement, the reaction and interaction of the audience with the channel's content are scrutinized. Does the video manage to capture the audience's attention and encourage participation through comments, likes, and shares, thus transforming viewers into active accomplices in the universe the channel has created? In this ceaseless flow of analysis and evaluation, the narrative of excellence is woven, where each criterion becomes a piece of the puzzle that reveals the full panorama of the channel's experience and its impact on the audience.

#### Element:

1. Social and cultural trends. Humor is affected by social and cultural changes. Your videos can reflect current themes that resonate with your audience.
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2. Technological progress. Advances in technology and audiovisual production tools can affect the quality and style of comedy videos on YouTube.
3. Regulations and Procedures. Changes to the YouTube platform and policies and the introduction of new video formats may impact how we create and distribute comedy content.
4. Gender diversity. The emergence of different types and styles of humor on YouTube, from skits to parodies to silly humor, may influence the development of comedy discourse.
5. Innovation. The creativity of creators can lead to new forms of humorous expression and bring new, unique ideas to the medium.
6. Public participation. Audience feedback and engagement can influence sentiment through comments, likes, audience trends, etc.
7. Globalization. YouTube's global reach has the potential to spread humor around the world and increase the cultural diversity of comedy content.
8. Change your language and communication style. Changes in language use and online communication may affect the style and tone of comedy in YouTube videos.
9. Collaboration and community. Collaboration between content creators and the formation of online communities can lead to new ideas and approaches to humorous discourse.
10. The effect of making money. Monetizing YouTube content can influence the motivations and strategies of content creators, which in turn affects the type and focus of humor in videos.

In the vast and dynamic landscape of YouTube, comedy is not a static entity; it is molded and transformed through a complex interplay of numerous interconnected factors. Firstly, social and cultural trends exert a palpable influence on the humor depicted in videos. This reflection of current themes, resonating with the audience, not only mirrors the zeitgeist but can also shape perceptions and attitudes. It serves as an echo of society's pulse, where humor becomes both a mirror and a commentator on the changes unfolding around us. Simultaneously, technological progress plays a pivotal role in the evolution of comedy on YouTube. Advances in audiovisual production tools open new creative possibilities and enhance the technical quality of comedic videos. From sophisticated editing to innovative visual effects, technology not only broadens the spectrum of what is achievable but also redefines standards of excellence in the digital medium.

We cannot overlook the impact of regulations and procedures on the YouTube platform. Changes in policies and video formats can significantly alter how comedic content is created and distributed. Adapting to these new guidelines may require a reassessment of creative and business strategies, thereby influencing the diversity and depth of comedic discourse on the platform. Finally, the effect of monetizing YouTube content cannot be underestimated. The pursuit of revenue can modify the motivations and strategies of content creators, leading to a different approach to producing comedic videos. This shift in focus may result in increased experimentation or heightened commercialization, depending on individual creators' goals and market demands. Ultimately, comedy on YouTube is a living, constantly evolving organism shaped by a dynamic interplay between human creativity, emerging technology, and cultural and economic forces at play.

Table 1: Factors relevant to the study.

To determine the components most affected by the above criteria, the TOPSIS method should be applied. First, we determined the strength of the decision sets shown in Table 1 and selected the five decision sets with the highest weights, considering the coverage of the entire process.

Table 2: Determination of quality of main parts.

C1	C2	C3	C4	C5
(0.10;0.90;0.90)	(0.35;0.75;0.80)	(0.35;0.75;0.80)	(0.10;0.90;0.90)	(0.35;0.75;0.80)
0.1646	0.2236	0.2236	0.1646	0.2236

In the future, consideration should be given to asking the group to fill in a questionnaire to rate the items according to the linguistic-neurosophic scale mentioned in Section 2.1 (see Table 3). From this, an evaluation criteria matrix was created (see Table 4). The results shown below are based on how respondents were categorized.

Table 3: Rating of the items according to the linguistic-neurosophic scale

	C1	C2	C3	C4	C5
Element 1					
<b>P1</b>	(0.50;0.5;0.50)	(0.50;0.5;0.50)	(0.50;0.5;0.50)	(0.50;0.5;0.50)	(0.35;0.75;0.80)
<b>P2</b>	(0.50;0.5;0.50)	(0.50;0.5;0.50)	(0.10;0.90;0.90)	(0.50;0.5;0.50)	(0.50;0.5;0.50)
<b>P3</b>	(0.75;0.25;0.2)	(0.35;0.75;0.80)	(0.75;0.25;0.2)	(0.75;0.25;0.2)	(0.75;0.25;0.2)
<b>P4</b>	(0.50;0.5;0.50)	(0.50;0.5;0.50)	(0.35;0.75;0.80)	(0.50;0.5;0.50)	(0.50;0.5;0.50)
<b>P5</b>	(0.50;0.5;0.50)	(0.50;0.5;0.50)	(0.10;0.90;0.90)	(0.50;0.5;0.50)	(0.10;0.90;0.90)
Element 2					
<b>P1</b>	(0.10;0.90;0.90)	(0.10;0.90;0.90)	(0.10;0.90;0.90)	(0.10;0.90;0.90)	(0.35;0.75;0.80)
<b>P2</b>	(0.10;0.90;0.90)	(0.35;0.75;0.80)	(0.10;0.90;0.90)	(0.10;0.90;0.90)	(0.10;0.90;0.90)
<b>P3</b>	(0.35;0.75;0.80)	(0.35;0.75;0.80)	(0.35;0.75;0.80)	(0.35;0.75;0.80)	(0.35;0.75;0.80)
<b>P4</b>	(0.10;0.90;0.90)	(0.10;0.90;0.90)	(0.35;0.75;0.80)	(0.10;0.90;0.90)	(0.35;0.75;0.80)
<b>P5</b>	(0.10;0.90;0.90)	(0.10;0.90;0.90)	(0.35;0.75;0.80)	(0.10;0.90;0.90)	(0.10;0.90;0.90)
Element 3					
<b>P1</b>	(0.10;0.90;0.90)	(0.10;0.90;0.90)	(0.35;0.75;0.80)	(0.10;0.90;0.90)	(0.35;0.75;0.80)
<b>P2</b>	(0.35;0.75;0.80)	(0.35;0.75;0.80)	(0.10;0.90;0.90)	(0.35;0.75;0.80)	(0.35;0.75;0.80)
<b>P3</b>	(0.10;0.90;0.90)	(0.50;0.5;0.50)	(0.10;0.90;0.90)	(0.10;0.90;0.90)	(0.10;0.90;0.90)
<b>P4</b>	(0.35;0.75;0.80)	(0.50;0.5;0.50)	(0.35;0.75;0.80)	(0.35;0.75;0.80)	(0.10;0.90;0.90)
<b>P5</b>	(0.35;0.75;0.80)	(0.35;0.75;0.80)	(0.35;0.75;0.80)	(0.35;0.75;0.80)	(0.50;0.5;0.50)
Element 4					
<b>P1</b>	(0.35;0.75;0.80)	(0.35;0.75;0.80)	(0.35;0.75;0.80)	(0.35;0.75;0.80)	(0.10;0.90;0.90)
<b>P2</b>	(0.35;0.75;0.80)	(0.35;0.75;0.80)	(0.50;0.5;0.50)	(0.35;0.75;0.80)	(0.35;0.75;0.80)
<b>P3</b>	(0.10;0.90;0.90)	(0.50;0.5;0.50)	(0.10;0.90;0.90)	(0.50;0.5;0.50)	(0.10;0.90;0.90)
<b>P4</b>	(0.10;0.90;0.90)	(0.10;0.90;0.90)	(0.10;0.90;0.90)	(0.35;0.75;0.80)	(0.10;0.90;0.90)
<b>P5</b>	(0.35;0.75;0.80)	(0.35;0.75;0.80)	(0.10;0.90;0.90)	(0.35;0.75;0.80)	(0.50;0.5;0.50)
Element 5					
<b>P1</b>	(0.50;0.5;0.50)	(0.35;0.75;0.80)	(0.50;0.5;0.50)	(0.50;0.5;0.50)	(0.50;0.5;0.50)
<b>P2</b>	(0.35;0.75;0.80)	(0.35;0.75;0.80)	(0.35;0.75;0.80)	(0.35;0.75;0.80)	(0.50;0.5;0.50)
<b>P3</b>	(0.50;0.5;0.50)	(0.35;0.75;0.80)	(0.50;0.5;0.50)	(0.50;0.5;0.50)	(0.35;0.75;0.80)
<b>P4</b>	(0.75;0.25;0.20)	(0.50;0.5;0.50)	(0.75;0.25;0.20)	(0.50;0.5;0.50)	(0.75;0.25;0.20)
<b>P5</b>	(0.35;0.75;0.80)	(0.35;0.75;0.80)	(0.50;0.5;0.50)	(0.50;0.5;0.50)	(0.35;0.75;0.80)

Table 4: Evaluation criteria matrix

	C1	C2	C3	C4	C5
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<b>P1</b>	(0.5061; 0.5221; 0.5161)	(0.5061; 0.5221; 0.5161)	(0.5061; 0.5221; 0.5161)	(0.5061; 0.5221; 0.5161)	(0.5061; 0.5221; 0.5161)
<b>P2</b>	(0.2482; 0.8137; 0.8433)	(0.2482; 0.8137; 0.8433)	(0.2482; 0.8137; 0.8433)	(0.2482; 0.8137; 0.8433)	(0.2482; 0.8137; 0.8433)
<b>P3</b>	(0.1632; 0.864; 0.8766)	(0.1632; 0.864; 0.8766)	(0.1632; 0.864; 0.8766)	(0.1632; 0.864; 0.8766)	(0.1632; 0.864; 0.8766)
<b>P4</b>	(0.2625; 0.805; 0.8374)	(0.2625; 0.805; 0.8374)	(0.2625; 0.805; 0.8374)	(0.2625; 0.805; 0.8374)	(0.2625; 0.805; 0.8374)
<b>P5</b>	(0.5718; 0.4282; 0.4074)	(0.5718; 0.4282; 0.4074)	(0.5718; 0.4282; 0.4074)	(0.5718; 0.4282; 0.4074)	(0.5718; 0.4282; 0.4074)

The importance of the topics identified by the expert group was consistent and logical (see Table 5). In addition, a weighted global decision matrix was also calculated (see Table 6).

Table 5: Components evaluated.

	Standards
<b>P1</b>	(0.6431; 0.36581; 0.3699)
<b>P2</b>	(0.68262; 0.31738; 0.30487)
<b>P3</b>	(0.56289; 0.45317; 0.44142)
<b>P4</b>	(0.38126; 0.65378; 0.67023)
<b>P5</b>	(0.55363; 0.45751; 0.46262)

Table 6: Global weighted decision matrix SVNS.

	C1	C2	C3	C4	C5
<b>P1</b>	(0.28017; 0.74074; 0.73996)	(0.34547; 0.67378; 0.66363)	(0.28488; 0.73867; 0.7297)	(0.19296; 0.83454; 0.84042)	(0.32547; 0.69692; 0.69509)
<b>P2</b>	(0.09035; 0.92622; 0.93369)	(0.1114; 0.90716; 0.91422)	(0.09186; 0.92563; 0.93107)	(0.06222; 0.95291; 0.95931)	(0.10495; 0.91375; 0.92225)
<b>P3</b>	(0.13741; 0.89893; 0.911579)	(0.16943; 0.87283; 0.89107)	(0.13971; 0.89813; 0.91247)	(0.09463; 0.9355; 0.94833)	(0.15962; 0.88185; 0.90126)
<b>P4</b>	(0.14533; 0.89421; 0.91262)	(0.17919; 0.86689; 0.88697)	(0.14776; 0.89337; 0.90917)	(0.10008; 0.93249; 0.94638)	(0.16881; 0.87633; 0.89755)
<b>P5</b>	(0.31657; 0.6898; 0.68155)	(0.39032; 0.60968; 0.58807)	(0.32186; 0.68732; 0.66899)	(0.218; 0.80203; 0.80458)	(0.36772; 0.63767; 0.6266)

Table 7: Ideal values and positive and negative distances.

	Positive Ideal Solution +	Negative Ideal Solution -
<b>P1</b>	(0.10495; 0.91375; 0.92225)	(0.10495; 0.6374; 0.6678)
<b>P2</b>	(0.1114; 0.90716; 0.91422)	(0.1114; 0.6097; 0.5881)
<b>P3</b>	(0.09186; 0.92563; 0.93107)	(0.0918; 0.6873; 0.669)
<b>P4</b>	(0.06222; 0.95291; 0.95931)	(0.06222; 0.802; 0.8046)
<b>P5</b>	(0.09035; 0.92622; 0.93369)	(0.31657; 0.6898; 0.6816)

Table 8: Component classification based on Proximity Coefficient (CP).

Alternative plan	$S_+$	$S_-$	$RJ_i$	Ranking
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<b>P1</b>	0.35506471	0.381339	0.51784	4
<b>P2</b>	0.15460157	0.602875	0.7959	1
<b>P3</b>	0.15049808	0.565311	0.78975	2
<b>P4</b>	0.15340259	0.559522	0.78483	3
<b>P5</b>	0.45245592	0.367267	0.44804	5

When creating content for the investigation pipeline. No matter your experience, it's important to have a strategy in place to ensure the content you publish generates traffic and views. This is important for setting priorities and taking action. Although training activities are ongoing, the focus should be on improvements in this area.

Addressing content creation within the investigative process necessitates a robust strategy ensuring traffic generation and viewership regardless of prior experience levels. Establishing such a framework is pivotal for setting priorities and taking actionable steps to bolster the reach and significance of published content. While training endeavors persist, emphasis should be placed on enhancements in this specific realm. It's essential to acknowledge that content quality isn't solely contingent upon research depth but also on its ability to captivate the intended audience and foster engagement. Thus, a meticulous analysis of the Proximity Coefficients (CP) presented in the table unveils patterns and trends pivotal for strategic decision-making in content production, facilitating an effective optimization of available resources.

The efficacy of any content strategy lies in its adaptability and alignment with the ever-evolving demands of the digital landscape. Deep comprehension of the data depicted in the table is thus imperative for identifying improvement opportunities and prioritizing focus areas. Recognizing that proximity coefficient analysis provides intricate insights into each component's relative effectiveness in eliciting interaction and resonance with the audience, an informed action plan can be delineated. Leveraging identified strengths and proactively addressing potential weaknesses can thus steer strategic endeavors toward fruition.

In strategic planning for content generation, adopting a holistic approach is imperative, considering not only the intrinsic quality of produced material but also its ability to attract and retain the target audience's attention. The table data serves as a robust foundation for such deliberations, furnishing valuable insights into each component's relative effectiveness vis-à-vis set objectives. Ultimately, the implementation of a strategy focused on continual optimization and strategic adaptability is paramount for sustaining the relevance and impact of generated content in the ever-evolving digital landscape.

#### 4 Conclusion

Compared with 2011-2012, Internet users' participation in Plug TV content dropped significantly in 2021. Despite the drop, last year's reviews didn't reveal any negative feelings toward the series. This supports Khan's (2017) argument that likes represent approval and comments reflect the user's opinion. To sum up, we can see that although the Antufe series of films have vulgar and colloquial language, they are also expressive. The difference is popularity. Swear words are more common in films from 2011-2012, and slang is more common in films from 2022. These findings suggest that the style of language used in soap operas has changed over time. On the other hand, it is worth noting that traditional language is not used in the films analyzed. This may be due to a lack of attention to pronunciation, word structure and usage, and language type. Texts in this series highlight the need for further analysis and understanding of changes in Internet user interactions and behaviors related to media content. It's also important to consider other variables, such as a user's social media identity and content preferences, to better understand the audience for your content. There is a clear difference in the number of likes and comments on TV Plug over the years. In 2011-2012, the number of likes was 12,608.3 billion and the number of comments was 369.236 billion, while in 2021-2022, the number of likes was 6.44 billion and the number of comments was 88,089. Data shows that the number of people expressing appreciation and recognition through likes has dropped significantly over the past decade. Additionally, the drop in comments highlights a decline in active user engagement and participation in recent years.

Enchufe TV's decline in viewership and engagement can be attributed to a variety of factors, including the growth and emergence of new platforms and content saturation. As one of the largest video platforms, YouTube is expanding its reach and diversifying its offerings. In addition to blogs and home videos, you can now find tutorials, live streaming, TV shows, documentaries, and music. YouTube has improved its interface and introduced a recommendation algorithm to give you more personalized content. TikTok, on the other hand, has become a leading platform for creating and sharing short videos. The focus on concise content and the ease of creating special effects

videos attract many users, especially young people. TikTok has revolutionized the way content is created and consumed, which means users have more choices, including comedy web series, which has led some Enchufe TV subscribers to seek new entertainment options. , technology has led to a continued oversupply of online entertainment, and the plethora of choices available may overwhelm users. Select one of the available ones. This can lead to less active engagement from users, as they are less likely to interact or comment on the channels they are subscribed to.

**Funding:** "This research received no external funding."

**Conflict of interest:** " The authors declare that there are no conflicts of interest ."

## References

- [1] Palina, J. (2008). The Development of the Internet as a Means of Communication [University of San Carlos, Canton of Ticino, Guatemala]. Retrieved from [http://biblioteca.usac.edu.gt/tesis/16/16\\_0599.pdf](http://biblioteca.usac.edu.gt/tesis/16/16_0599.pdf).
- [2] Panolos, J. (2019). YouTube as a social entertainment platform. *Italy and Language*, 14(66). Retrieved from <http://www.razonypalabra.org.mx/N/n66/varia/jbanuelos.pdf>.
- [3] Burgess, J., & Green, J. (2018). *YouTube: Online video and participatory culture*. John Wiley & Sons.
- [4] Hani D. Hejazi, Ahmed A. Khamees. (2022). Opinion mining for Arabic dialect in social media data fusion platforms: A systematic review. *Journal of*, 9 ( 1 ), 08-28 (Doi: <https://doi.org/10.54216/FPA.090101>)
- [5] Slaughter, A. M. (2016). How to succeed in the networked world: a grand strategy for the digital age. *Foreign Aff.*, 95, 76.
- [6] Kubo-Duran, S. (2011). *Super television: Genres and forms. Gordeiro is perfect. Grace day. Sibal Quito Edition, Ecuador, 2009, 262 pages [Analysis]. Delicia*, 3, 175-
- [7] S. Alvarez Hernandez, P. P. Jairo Mauricio, L. Vázquez Maikel. (2022). Neutrosophic TOPSIS for prioritization Social Responsibility Projects. *International Journal of Neutrosophic Science* , 19 ( 1 ), 350-362 (Doi : <https://doi.org/10.54216/IJNS.190132>)
- [8] F. Smarandache, "Note on Partial Falsifiability of Fuzzy and Fuzzy-Extension Hypotheses," *Plithogenic Logic and Computation*, vol. 1, pp. 93–95, Apr. 2024, doi: 10.61356/j.plc.2024.1240.
- [9] Wang, H., Smarandache, F., Zhang, Y., & Sunderraman, R. (2012). Single valued neutrosophic sets. *Rev. Air Force Acad.*
- [10] Liu, P., & Liu, X. (2018). The neutrosophic number generalized weighted power averaging operator and its application in multiple attribute group decision making. *International Journal of Machine Learning and Cybernetics*, 9, 347-358.
- [11] Şahin, R. (2014). Multi-criteria neutrosophic decision making method based on score and accuracy functions under neutrosophic environment. *arXiv preprint arXiv:1412.5202*.
- [12] Vázquez, M. L., & Smarandache, F. (2024). A Neutrosophic Approach to Study Agnotology: A Case Study on Climate Change Beliefs. *HyperSoft Set Methods in Engineering*, 2, 1-8.
- [13] Wang, J. Q., Yang, Y., & Li, L. (2018). Multi-criteria decision-making method based on single-valued neutrosophic linguistic Maclaurin symmetric mean operators. *Neural Computing and Applications*, 30, 1529-1547.
- [14] Shahrom, M. A. M., Zainal, N., Aziz, M. F. A., & Mostafa, S. A. (2023). A Review of Glowworm Swarm Optimization Meta-Heuristic Swarm Intelligence and its Fusion in Various Applications. *Fusion: Practice and Applications*, 13(1), 89-102.
- [15] Zambrano, L. A., & Jadan, B. V. (2023). Integrative Multi-Information Fusion for Enhanced Risk Assessment: A Multi-Criteria Decision-Making Framework. *Fusion: Practice and Applications*, 14(1), 158-58.

- [16] S. Alvarez Hernandez, P. P. Jairo Mauricio, L. Vázquez Maikel. (2022). Neutrosophic TOPSIS for prioritization of Social Responsibility Projects. *Journal of*, 19 ( 1 ), 350-362 (Doi: <https://doi.org/10.54216/IJNS.190132>)
- [17] Elhassouny, A., & Smarandache, F. (2016). Neutrosophic-simplifiedTOPSIS. In 2016 IEEE International Conference on Fuzzy Systems, FUZZ-IEEE.
- [18] Biswas, P., Pramanik, S., & Giri, B. C. (2019). Neutrosophic TOPSIS with group decision making. *fuzzy multi-criteria decision-making using neutrosophic sets*, 543-585.