NEUTROSOPHIC EXAMINATION OF DETERMINING FACTORS OF CONTRACT KILLINGS AND THEIR SOCIO-LEGAL INCIDENCE.

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ABSTRACT.
The investigation delves into the perplexing realm of contract killings, employing a neutrosophic examination to unearth the determining factors behind these crimes and their profound socio-legal ramifications. At the heart of this research lies a critical question: what intricate interplay of motives, structures, and societal conditions fuels the phenomenon of contract killings, and how do these elements influence legal and social frameworks? In the current climate, where such crimes not only shatter communities but also challenge the efficacy of legal systems, understanding these dynamics is of paramount importance. While numerous studies have touched on facets of organized crime and socio-legal analysis, there remains a conspicuous void in approaches that can effectively grapple with the inherent indeterminacy and complexity of the factors involved. This work bridges that gap through the innovative application of neutrosophic methods—tools designed to handle ambiguity and uncertainty—thereby providing a comprehensive lens through which to dissect and interpret these clandestine transactions. Utilizing this neutrosophic framework, the study reveals a tapestry of influences that traditional binary models might overlook, highlighting how ambiguous motives and conflicting social pressures intertwine to shape the occurrence of contract killings. The results suggest a nuanced landscape where legal implications and societal impacts are deeply interwoven with uncertain and often contradictory factors. Importantly, these findings do more than catalog observations; they extend the theoretical foundations of socio-legal inquiry by introducing a methodological novelty that accounts for uncertainty in evaluating criminal phenomena. In practice, the insights gleaned from this approach offer policymakers and law enforcement agencies actionable strategies to anticipate and mitigate the socio-legal fallout of such crimes. As a contribution to the field, this study not only enriches our understanding of contract killings from a neutrosophic perspective but also paves the way for further research that embraces complexity, ultimately enhancing the robustness of both academic inquiry and practical intervention strategies.
KEYWORDS: Neutrosophic Statistics, Assassination, Organized Crime, Social Security, Legal Measures, Institutional Weakness.

MSC: 62P25, 91D10, 93A30, 03B52, 68T37

RESUMEN.
La investigación aborda el enigmático fenómeno de los contratos de asesinato, utilizando un examen neutrosófico para desentrañar los factores determinantes que subyacen a estos crímenes y sus profundos efectos socio-legales. En el núcleo de este estudio se encuentra la pregunta crítica sobre cómo una compleja interrelación de motivos, estructuras organizativas y condiciones sociales incide en la perpetración de estos actos y cómo influyen en los marcos legales y sociales. En un contexto actual donde estos delitos no solo fragmentan comunidades sino que desafían la eficacia de los sistemas judiciales, resulta crucial comprender estas dinámicas. A pesar de que numerosos estudios han explorado aspectos del crimen organizado y del análisis socio-legal, existe una notable carencia de enfoques que manejen adecuadamente la indeterminación y complejidad inherentes a los factores implicados, vacío que este trabajo busca llenar mediante la aplicación innovadora de métodos neutrosóficos que permiten gestionar la ambigüedad y la incertidumbre. Empleando este marco neutrosófico, el estudio revela un entramado de influencias que los modelos tradicionales podrían pasar por alto, evidenciando cómo motivos ambiguos y presiones sociales contradictorias se entrelazan para moldear la aparición de asesinatos por encargo. Los resultados indican un panorama matizado en el que las implicaciones legales y los impactos en la sociedad están profundamente vinculados a factores inciertos y frecuentemente contradictorios. Más allá de catalogar observaciones, estos hallazgos amplían las bases teóricas de la investigación socio-legal al introducir una novedad metodológica que incorpora la incertidumbre en la evaluación de fenómenos criminales. En la práctica, los

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conocimientos derivados de este enfoque ofrecen estrategias accionables para que formuladores de políticas y agencias de seguridad anticipen y mitiguen las repercusiones socio-legales de tales crímenes. Esta contribución no solo enriquece nuestra comprensión de los contratos de asesinato desde una perspectiva neutrosófica, sino que también sienta las bases para futuras investigaciones que abracen la complejidad, mejorando tanto la robustez del análisis académico como la eficacia de las intervenciones prácticas.
PALABRAS CLAVE: Estadísticas neutrosóficas, asesinato, crimen organizado, seguridad social, medidas legales, debilidad institucional.

1. INTRODUCTION

The phenomenon of contract killings presents a deeply concerning societal issue, intertwining elements of organized crime, socio-legal complexity, and profound human tragedy. Investigating the determining factors behind these crimes and their socio-legal implications is not merely an academic exercise but a pressing necessity that could inform policy and preventive strategies. In today's increasingly interconnected world, where such crimes impact community stability and public safety, a nuanced understanding becomes vital to developing effective interventions [1,15]. By applying innovative analytical tools, researchers can peel back layers of ambiguity and reveal patterns that traditional approaches often miss. Historically, contract killings have evolved alongside changes in criminal enterprises and socio-economic conditions, reflecting broader shifts in how crime adapts to or exploits weaknesses in society. Past studies have traced the growth of organized crime syndicates, the socio-economic disparities fueling violence, and the corresponding legal responses that have attempted to keep pace [2,14]. This backdrop underscores not only the urgency of the investigation but also how deeply rooted and multifaceted the issue has become, demanding a blend of historical insight and modern analysis [3,12]. As we transition from past to present, the complex dynamics at play in contract killings become increasingly intricate. Advancements in technology, globalization, and the fluidity of criminal networks have further complicated the traditional law enforcement landscape [4,15]. Yet, despite significant scholarship on organized crime, there remains a lack of comprehensive models that account for the inherent uncertainties and contradictory factors that influence these phenomena. Traditional approaches often fall short, failing to incorporate the fluidity and unpredictability of human behavior and societal trends that drive contract killings [5,16].

The central question guiding this study is straightforward yet challenging: what are the determining factors that lead to contract killings, and how do they shape socio-legal outcomes? This query encapsulates a vast array of issues, from economic drivers and cultural influences to legal loopholes and enforcement challenges. The research acknowledges that contract killings are not isolated events but the result of a complex interplay of variables that resist simple categorization. Consequently, understanding this interplay is paramount to devising legal and social strategies that are both effective and just. Addressing this complexity requires innovative methodology. The study embraces a neutrosophic examination—a novel approach capable of handling indeterminate and contradictory information—to dissect and analyze the multifaceted nature of contract killings. This method allows for the integration of ambiguous data and conflicting evidence, offering a more holistic and flexible framework than conventional binary models. As a result, it paves the way for more nuanced insights that could inform future policy-making and intervention strategies. By weaving together a broad spectrum of historical context, current trends, and methodological innovation, the investigation positions itself at the intersection of theory and practice. The incorporation of neutrosophic methods signals a shift towards embracing uncertainty rather than shying away from it, a departure from strictly deterministic frameworks prevalent in earlier research. This methodological pivot is intended to capture the elusive factors that conventional analysis might overlook, offering a richer tapestry of elements. The ultimate goal of this research is twofold. First, it seeks to rigorously identify and analyze the key determinants of contract killings through a lens that acknowledges and manages uncertainty. Second, it aims to translate these findings into actionable recommendations for legal practitioners, policymakers, and law enforcement agencies who grapple with the challenges posed by such crimes. By bridging the gap between theoretical innovation and practical application, the study not only advances academic discourse but also aspires to make a tangible impact on society.

In summary, this study sets out to deepen our understanding of contract killings and their socio-legal consequences through the application of a neutrosophic framework. The objectives are clear: to dissect the underlying factors, to offer a robust analytical tool that embraces complexity, and to propose informed strategies that enhance legal responses and preventive measures. This approach promises to enrich both the academic field and practical interventions, offering a beacon of insight into the murky landscape of organized crime.

2. NEUTROSOPHIC STATISTICS

Neutrosophic Statistics emerged from groundbreaking work in 2014 that led to the establishment of Neutrosophic Descriptive Statistics (NDS). Following this initial development, the field experienced significant growth by 2018, when additional branches such as Neutrosophic Inferential Statistics (NIS), Neutrosophic Applied Statistics (NAS) y Neutrosophic Statistical Quality Control (NSQC) were introduced. These advancements reflect an evolving

effort to broaden the scope of statistical analysis by incorporating uncertainty in a more comprehensive manner than traditional methods.

At its core, Neutrosophic Statistics serves as a generalization of classical and imprecise probabilities and statistics. This approach diverges from traditional probability theory by considering not only the likelihood of an event occurring or not occurring but also the probability of indeterminacy—acknowledging a state of uncertainty about the event's outcome. While classical probability confines total probability values to a maximum of one, neutrosophic probability expands this boundary, permitting values up to three. This allowance for greater numerical flexibility equips analysts with a more adaptable framework for modeling complex systems where indeterminacy plays a pivotal role.

The neutrosophic distribution models the probability of a random variable *x* as *NP(x) = (T(x),I(x),F(x))*, where *T(x)* represents the probability of the value *x* occurring, *F(x)* represents the probability of *x* not occurring, and *I(x)* represents the indeterminate or unknown probability of *x*.

As noted in reference [6], Neutrosophic Statistics analyzes neutrosophic events, including neutrosophic numbers, neutrosophic probability distributions, neutrosophic estimates, neutrosophic regressions and other analyses. This approach applies to data sets exhibiting degrees of indeterminacy, using customized methods for analysis. Unlike Classical Statistics, which focuses on determined data and inference methods, Neutrosophic Statistics is dedicated to indeterminate data, those that have some degree of indeterminacy such as vagueness, lack of clarity, partial ignorance, and contradictions, among others. Here, indeterminate data refers to data that is unclear, ambiguous or uncertain in some way. The inferences or conclusions we can draw from such data will also contain aspects of uncertainty.

It's important to note that Neutrosophic Statistics generalizes the concept of statistics to not just deal with precise values, but also intervals of possible values. It uses set theory rather than just interval analysis. If the data and methods were completely determinate with no uncertainties, Neutrosophic Statistics would be the same as Classical Statistics. However, in the real world, we often encounter ambiguities and a lack of perfect information. So neutrosophic statistical methods provide a more comprehensive approach.

These neutrosophic statistical methods [7,13], help us to better understand neutrosophic data. Neutrosophic data can be vague, ambiguous, imprecise or even unknown. Using these statistical techniques allows us to look for patterns in the data despite its uncertainties.

In summary, Neutrosophic Logic [8,9], Neutrosophic Sets and Neutrosophic Probabilities and Statistics have wide applications in many fields of research. They represent an area of study that continues to develop. Neutrosophic Descriptive Statistics [10,14], encompasses all the techniques for characterizing and describing neutrosophic numerical data. Neutrosophic Numbers take the form where *a* and *b* are real or complex numbers, while "*I*" represents the indeterminate component of the Neutrosophic Number N. [11]

$$N = a + bI.$$

The field of neutrosophic statistics involves analyzing neutrosophic random variables, where X_l represents the lower value and I_1, I_u define the indeterminacy range. When calculating the neutrosophic mean (represented as $\bar{x}_N$), it is expressed as:

$$X_N = X_l + X_u I_N;\ I_N \in [I_l, I_u] \tag{1}$$

where

$$\bar{x}_a = \frac{1}{n_N}\sum_{i=1}^{n_N} X_{il}\ \bar{x}_b = \frac{1}{n_N}\sum_{i=1}^{n_N} X_{iu}\ n_N \in [n_l, n_u] \tag{2}$$

It is a neutrosophic random sample. However, for the calculation of Neutrosophic frames (NNS) it can be calculated as follows

$$\sum_{i=1}^{n} N(X_i - \bar{X}_{iN})^2 = \sum_{i=1}^{n} N\begin{bmatrix} \min\begin{pmatrix}(a_i + b_i I_L)(\bar{a} + \bar{b} I_L), (a_i + b_i I_L)(\bar{a} + \bar{b} I_U)\\ (a_i + b_i I_U)(\bar{a} + \bar{b} I_L), (a_i + b_i I_U)(\bar{a} + \bar{b} I_U)\end{pmatrix} \\ \max\begin{pmatrix}(a_i + b_i I_L)(\bar{a} + \bar{b} I_L), (a_i + b_i I_L)(\bar{a} + \bar{b} I_U)\\ (a_i + b_i I_U)(\bar{a} + \bar{b} I_L), (a_i + b_i I_U)(\bar{a} + \bar{b} I_U)\end{pmatrix}\end{bmatrix}, I \in [I_L, I_U] \tag{3}$$

where the variance of the neutrosophic sample can be calculated by:$a_i = X_l b_i = X_u$

$$\boldsymbol{S_N^2 = \frac{\sum_{i=1}^{n_N}(X_i - \bar{X}_{iN})^2}{n_N};\ S_N^2 \in [S_L^2, S_U^2]} \tag{4}$$

This methodology evaluates the coherence of variables using a neutrosophic coefficient (NCV). A lower NCV score demonstrates that the factor's performance is more consistent relative to other assessed factors. The NCV can be calculated using the following method.

$$\boldsymbol{CV_N = \frac{\sqrt{S_N^2}}{\bar{X}_N} \times 100;\ CV_N \in [CV_L, CV_U]} \tag{5}$$

3. MATERIALS AND METHODS

This study employed a quantitative approach using neutrosophic statistics(Figure 1) to model the key variables influencing the rise in contract killings (sicariato). The methodology integrated expert consultations, data coding, and statistical modeling to capture the complexity of the contributing factors.

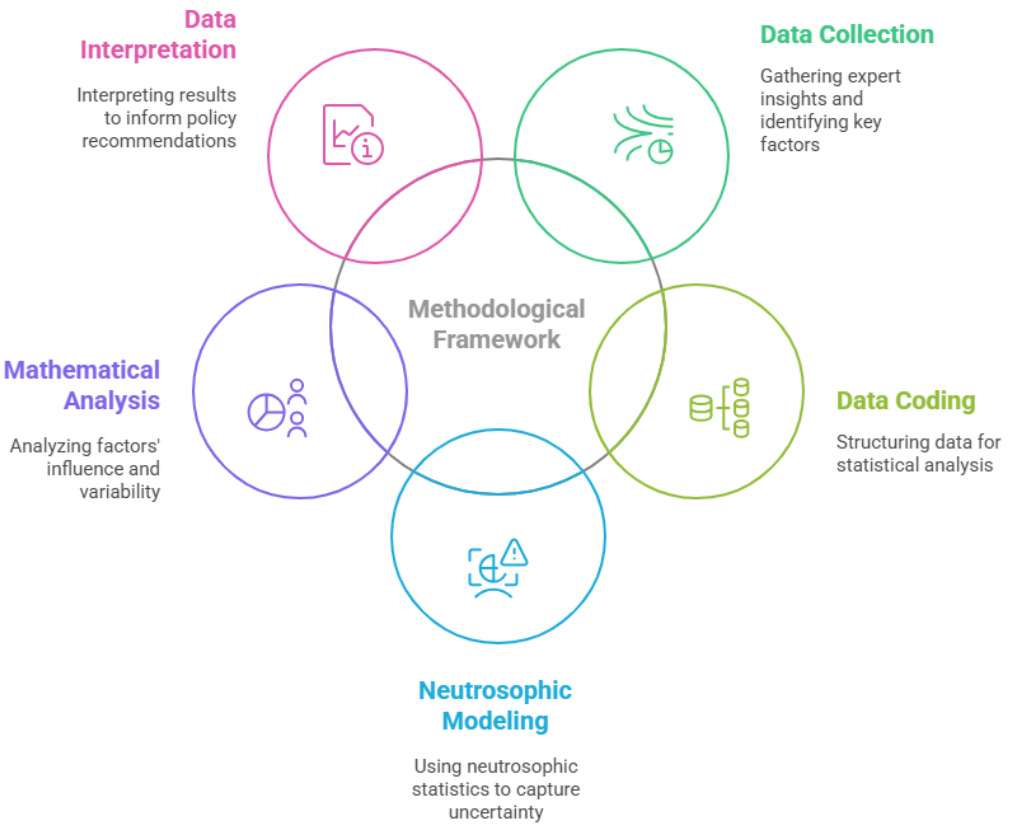

Figure 1. Framework for Analyzing Contract Killings Factors

Data Collection and Expert Consultation

A panel of subject matter experts was consulted to identify the most influential factors contributing to contract killings. Five key factors were selected based on their potential impact, each measured on a scale from 0 to 5, where 0 represents no risk and 5 represents a severe national threat. The identified factors include:

Growing Criminal Activity in specific areas.

Unemployment and its socioeconomic consequences.

Lack of Enforcement of legal regulations by authorities.

Economic Needs of local communities.

Formation of Gangs due to limited educational opportunities for youth.

Data Coding and Sample Description

The data set comprised 130 observations for each factor, representing daily occurrences over an extended period. The factors were coded to facilitate statistical modeling, allowing for the construction of mathematical relationships between these factors and their influence on contract killings.

Neutrosophic Statistical Modeling

Neutrosophic Frequencies:

The incidence of each factor was assessed using neutrosophic frequencies, representing the range of occurrences between specific lower and upper bounds for each day. This approach captures both the presence of clear data and areas of uncertainty.

TRINS Matrix Construction:

A TRINS matrix was built to categorize each observation, linking the factors to specific incidence levels. This matrix enabled the evaluation of how frequently each factor influenced contract killings over the observation period.

Mathematical Analysis

Central Tendency and Variability:

The neutrosophic mean ($\bar{x}_N$), standard deviation (S.N.), and coefficient of variation (CVN) were calculated for each factor. These measures provided insights into the stability and variability of each factor's influence.

Indeterminacy Measures:

Indeterminacy intervals (I) were derived to assess the level of uncertainty associated with each factor. These measures reflect the gaps in data reliability due to inconsistent enforcement or reporting practices.

Comparative Analysis

The relationships between factors were analyzed to identify the most influential drivers of contract killings. Factors 1 (Criminal Activity) and 3 (Lack of Control by Authorities) exhibited higher average neutrosophic values, indicating their dominant roles in the proliferation of contract killings.

Data Interpretation and Validation

The neutrosophic data were interpreted using incidence scores and frequency distributions to determine patterns over time. The robustness of the model was validated through expert reviews, ensuring that the statistical findings aligned with real-world observations.

This methodological framework provided a comprehensive understanding of the multifaceted causes behind contract killings, integrating quantitative data with expert insights to support evidence-based policy recommendations.

4. RESULTS

The study aimed to determine the factors driving the rise in contract killings. Given the complexity of the available data, neutrosophic statistics were utilized to model the key variable. Experts identified the most influential factors and variables to model after reviewing the information and consulting with subject matter experts.

Figure 1 lists the factors analyzed for their effect on increasing contract killings. Each factor is measured on a scale of 0 to 5, defining its potential impact. The categories consider the level of incidence from not constituting a risk to threatening the entire country. The factors included growing criminal activity in areas, unemployment, lack of enforcement of rules by authorities, economic needs of communities, and formation of gangs due to insufficient education opportunities for youth.

The team concluded that coding the underlying factors would allow them to build a viable model using neutral statistics. They focused on a central variable related to the interaction of users with the franchise, analyzing a sample size of 130 data points for each factor (f) that could influence the levels of participation. By formally defining these significant elements, the objective was to develop mathematical and statistical relationships between these factors and their interaction with the game. This modeling approach would provide objective and quantifiable information to promote a greater link with the brand. The coded factors also intended to serve as predictive indicators of how changes in different areas could influence the participation and future development of the series of games.

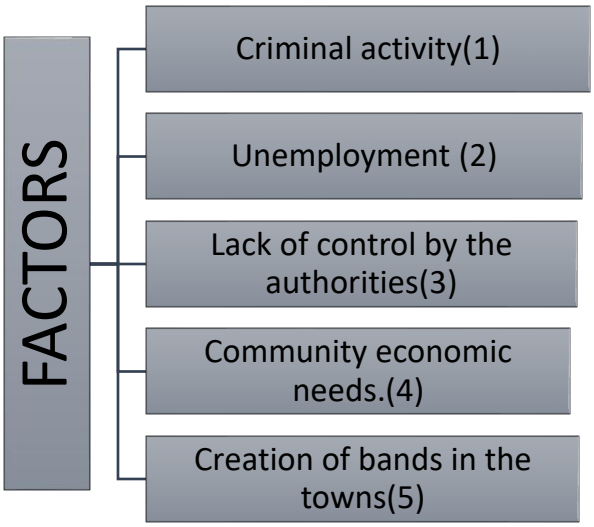

Figure 2: Determining factors in the growing development of the Sicariato. Own elaboration.

This study examines the neutrosophic frequencies of factors influencing the increasing development of contract killing. An incidence score is assigned to each factor, comprising the set of impacts to anticipate issues and explore alternative solutions.

Days	Neutrosophic frequencies				
	1	**2**	**3**	**4**	**5**
1	[2 , 5]	[0 , 0]	[1 , 3]	[0 , 2]	[1 , 1]
2	[1 , 3]	[0 , 0]	[0 , 3]	[0 , 0]	[1 , 2]
3	[0 , 3]	[2 , 4]	[2 , 5]	[1 , 4]	[1 , 4]
4	[1 , 1]	[2 , 4]	[1 , 3]	[0 , 2]	[1 , 1]
5	[0 , 1]	[0 , 3]	[0 , 3]	[1 , 2]	[1 , 2]
6	[1 , 2]	[2 , 4]	[1 , 1]	[0 , 2]	[1 , 1]
7	[0 , 1]	[2 , 2]	[0 , 1]	[2 , 2]	[1 , 2]
8	[1 , 2]	[1 , 4]	[2 , 2]	[1 , 1]	[0 , 1]
9	[2 , 3]	[1 , 2]	[1 , 4]	[0 , 1]	[1 , 2]
10	[2 , 5]	[1 , 4]	[0 , 2]	[0 , 0]	[2 , 3]
11	[1 , 4]	[2 , 3]	[2 , 4]	[2 , 5]	[2 , 3]
12	[1 , 4]	[0 , 0]	[2 , 5]	[2 , 5]	[1 , 2]
13	[2 , 2]	[1 , 2]	[2 , 4]	[2 , 3]	[1 , 3]
14	[1 , 4]	[2 , 4]	[1 , 3]	[0 , 1]	[1 , 4]
15	[1 , 2]	[1 , 2]	[2 , 4]	[1 , 2]	[2 , 5]
16	[1 , 2]	[1 , 1]	[2 , 4]	[0 , 0]	[1 , 4]
17	[2 , 4]	[0 , 0]	[0 , 3]	[1 , 4]	[1 , 1]
18	[0 , 0]	[2 , 4]	[2 , 4]	[2 , 4]	[0 , 1]
19	[2 , 3]	[1 , 3]	[1 , 1]	[1 , 2]	[2 , 5]
20	[2 , 5]	[1 , 3]	[0 , 2]	[0 , 0]	[2 , 2]
21	[2 , 4]	[2 , 2]	[2 , 3]	[0 , 0]	[0 , 2]
22	[2 , 2]	[0 , 0]	[1 , 3]	[0 , 0]	[2 , 5]
23	[2 , 5]	[0 , 0]	[1 , 4]	[0 , 3]	[0 , 1]
24	[0 , 1]	[1 , 3]	[1 , 4]	[1 , 1]	[0 , 3]
25	[0 , 3]	[0 , 2]	[2 , 2]	[0 , 2]	[0 , 0]
26	[2 , 4]	[1 , 1]	[0 , 0]	[0 , 1]	[2 , 5]
27	[2 , 4]	[0 , 3]	[1 , 4]	[1 , 2]	[2 , 3]
28	[2 , 3]	[2 , 2]	[1 , 2]	[1 , 4]	[0 , 3]
29	[1 , 3]	[2 , 3]	[2 , 2]	[2 , 3]	[0 , 0]
30	[1 , 2]	[1 , 4]	[2 , 3]	[0 , 0]	[2 , 3]
31-130	[132, 366]	[142, 343]	[153, 361]	[110, 287]	[137, 352]

Table 1 Estimated frequencies of occurrence of various factors

These factors could influence the occurrence of contract killings (sicariato) over a span of 130 days. Each element was rated with an estimated daily occurrence level on a scale from 0 to 5. The cumulative estimates of uncertainty yielded values of 234 for level 1, 201 for level 2, 208 for level 3, 177 for level 4, and 215 for level 5. Moreover, on days when five effects per factor were noted, the estimated representativeness of these factors ranged between 57.62% and 63.93%.

An estimated 60% incidence of unemployment was observed, suggesting that those without work tended to migrate to more diverse areas in search of essential resources. Such movements, however, led to an unsustainable fulfillment of social demands, as restoration strategies grounded in natural regeneration were not put in place. The data presented in Table 2 clarify which factors corresponded to a representative average value ($\bar{x}$), providing deeper insight into the dynamics at play.

Factors	$\bar{x}_N$	***S.N.***	***CVN***
Criminal activity	[1.016 ; 2,816]	[0.422; 2,023]	[0.419; 0.720]

Unemployment	[1.093 ; 2,639]	[0.432; 2000]	[0.398; 0.760]
Lack of control by the authorities.	[1.178; 2,778]	[0.418; 1,825]	[0.357; 0.659]
Community economic needs.	[0.847; 2.209]	[0.438; 2,074]	[0.520; 0.95]
Creation of bands in the towns.	[1.055 ; 2,709]	[0.444; 2.166]	[0.423; 0.9]

Table 2. Neutrosophic statistical analysis.

Based on the analysis, Factors 3 and 1 exhibited higher average values that influenced the other factors (Table 3), indicating they are the primary drivers of Hitman's increasing development. Furthermore, it was observed that the coefficient of variation (CV) value for Factor 3 was lower than the others. Therefore, the results of Factor 3 have a more robust, consistent and precise effect on the assessment of uncertainty as compared to the other factors.

Factors	$\overline{x}_N$	***S.N.***	***CVN***
1	1,016 + 2,816 I	0.422 + 2.023 I	0.4179+ 0.720 I
2	1,093 + 2,639 I	0.432 + 2.000 I	0.398+ 0.760I
3	1,178 + 2,778 I	0.418 + 1.825 I	0.3567+ 0.659 I
4	0.847 + 2.209 I	0.438 + 2.074 I	0.520+ 0.95 I
5	1,055 + 2,709 I	0.444 + 2.166 I	0.423 + 0.9 I

Table 3. Neutrosophic forms. Own elaboration

Factors	$\overline{x}_N$	***S.N.***	***CVN***
1	$I \in [0,0,61.8]$	$I \in [0,0,78.1]$	$I \in [0,0,41.0]$
2	$I \in [0,0,48.5]$	$I \in [0,0,76.4]$	$I \in [0,0,46.7]$
3	$I \in [0,0,52.5]$	$I \in [0,0,79.1]$	$I \in [0,0,44.9]$
4	$I \in [0,0,63.6]$	$I \in [0,0,77.8]$	$I \in [0,0,45.8]$
5	$I \in [0,0,63.2]$	$I \in [0,0,76.5]$	$I \in [0,0,46.3]$

Table 4. Measures of indeterminacy. Own elaboration.

The associated measure of referent indeterminacy was derived using neutrosophic numbers, with comparative analyses detailed in Tables 3 and 4. Findings indicated values spanning from $\overline{x}$ = [0.356, 0.658]. This measure reflects the uncertainty stemming from the absence of clear regulations intended to ensure effective government control over the expanding phenomenon of contract killings. It becomes crucial to reorient educational strategies towards mitigating contract killings within communities. Such an approach would involve educational methods that foster behaviors contributing to sustainable development and a broad campaign to raise awareness across the entire populace. Following a comprehensive analysis, a proposal was formulated to address holistically the issue of contract killings and their socio-legal impacts specifically in Babahoyo during the first half of 2023. This proposal outlines a blend of legal and socioeconomic measures aimed at reducing the frequency of such cases while promoting a safer and more harmonious community environment. Prevention and Awareness: Launch community-focused campaigns that highlight the harmful effects of contract killings on the social fabric and stress the importance of reporting such activities. This initiative would be complemented by workshops in educational and community settings to inform young individuals about the serious consequences of engaging in criminal conduct. Boost Community Collaboration: Foster cooperation among residents, law enforcement, and local officials to detect and report suspicious activities. Part of this strategy includes the creation of secure, anonymous channels for sharing information related to contract killings. Enhance Judicial Processes: Reassess and modify legal procedures to speed up the resolution of cases involving contract killings while ensuring transparency. The plan also contemplates the formation of a specialized unit, staffed by expert judges and prosecutors, dedicated solely to handling these cases.

Reintegration and Economic Opportunity Initiatives: Introduce training and employment programs tailored for young individuals who may be at risk of falling into criminal activities. This effort would involve partnerships with local businesses and organizations to create jobs and foster entrepreneurship.

Bolster Law Enforcement Visibility and Monitoring: Increase police patrols and presence in areas known for high incidences of contract killings. The proposal also advocates for the use of surveillance technology and data analysis to identify crime patterns and prevent future incidents.

Ongoing Evaluation and Oversight: Establish specific indicators to assess the effectiveness of the implemented strategies. Regular evaluations should be conducted, with adjustments made based on the results and evolving needs.

This multifaceted proposal aims to tackle the complex issue of contract killings by integrating prevention, legal

reform, community collaboration, socioeconomic support, enhanced security measures, and systematic evaluation—thereby contributing to a safer and more resilient community.

5. CONCLUSIONS

The principal outcomes indicate that applying neutrosophic techniques permitted the disassembly and scrutiny of intricate variables connected to contract killings. This approach yielded measures of indeterminacy and representativeness that deepen our understanding of this multifaceted issue. By unveiling the absence of definitive regulations and the resulting ambiguity, the methodology lays a robust groundwork for holistic proposals addressing both legal and socioeconomic dimensions in targeted scenarios. The amassed and examined data supply a richer outlook on the core mechanics of contract-killing phenomena, underscoring the effectiveness of these approaches in contexts marked by significant complexity and fluctuation. The practical ramifications of these findings are substantial, offering tangible instruments and strategies aimed at preventing and mitigating serious crimes within affected areas. Initiatives such as awareness campaigns, enhanced community cooperation, and judicial system improvements serve as concrete examples of how theoretical research can transform into effective on-the-ground actions. These insights thus help shape policies and programs that bolster safety and foster social progress, directly tackling urgent real-world challenges. A key contribution of this research is its introduction of a groundbreaking methodology that integrates uncertainty management into the examination of complex criminal phenomena. This strategy broadens the theoretical horizons of criminology and socio-legal analysis while supplying practical tools that improve our capacity to model and navigate unpredictable situations. Embracing ambiguity and inherent variability as central components marks a significant shift, opening new paths for understanding and confronting organized crime more effectively. Nonetheless, certain objective constraints warrant acknowledgment. Dependence on specific assumptions and the nature of the available data may limit the broad applicability of the results. Moreover, the study's focus on a defined geographic and temporal context may restrict the direct transferability of its conclusions to other settings without necessary adjustments, calling for caution when generalizing these elements.

Importantly, neutrosophic network analysis revealed an indeterminacy level of 45.9%, highlighting the absence of clear regulations as a significant factor. This regulatory void inversely impacts other variables, suggesting that addressing such gaps could enhance the performance of related factors. The potential reversibility of negative outcomes through effective regulatory control underscores the critical role these measures can play. For future research, it would be beneficial to explore alternative methods that complement the neutrosophic framework—such as fuzzy logic analysis or artificial intelligence approaches—which might offer additional precision and flexibility. Expanding the study's scope to encompass different environments and time frames would facilitate validation and broader application of the findings, enriching the knowledge base and allowing strategies to be tailored to diverse realities. Delving deeper into the interplay between socioeconomic conditions and legal mechanisms is similarly advised to refine prevention strategies and policy development. In conclusion, this study not only provides a novel lens for examining contract killings and their socio-legal implications but also establishes a foundation for developing comprehensive, adaptive strategies. Recognizing the inherent uncertainty and complexity of this issue represents a noteworthy progression, with implications that extend beyond theoretical discourse into practical measures aimed at enhancing safety and well-being in vulnerable communities.

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