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Neutrosophic Marketing Strategy and Consumer Behavior

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Abstract. Selecting an appropriate marketing strategy based on consumer behavior is a complex decision that involves multi-criteria analysis and the incorporation of inherent uncertainties in such behavior. While numerous multi-criteria decision-making methods exist, few effectively address indeterminacy. In this study, the main objective is to select a suitable marketing strategy within a neutrosophic framework, accommodating the complex ambiguities of consumer behavior. Although the CRITIC method is widely used for multi-criteria decision-making, its traditional version struggles to adequately model the uncertainties inherent in consumer behavior. Neutrosophy, as a philosophical approach dealing with uncertainties, presents an opportunity to enhance the CRITIC method. This enhancement results in a more precise model of the phenomenon, facilitating the selection of the best among a set of marketing strategies. According to the outcomes, the most suitable marketing strategies based on consumer behavior and expert criteria, as processed through the CRITIC neutrosophic method, are Augmented Reality Marketing for the Food Industry, Digital Marketing for Fashion Retail, and Experiential Marketing for Real Estate.

Keywords: Neutrosophy, CRITIC, MCDM, Marketing Strategy, Consumer Behavior.

1 Introduction

In an era defined by rapid technological advancements, shifting market dynamics, and empowered consumers, the fields of marketing and consumer behavior have assumed unprecedented significance. The choices consumers make and the factors influencing those choices have a profound impact on businesses of all sizes and industries. As we navigate an increasingly interconnected global economy, understanding the intricate interplay between marketing strategies and consumer decision-making is not just an academic pursuit but a strategic imperative for companies seeking to thrive and innovate.

In this age of information overload, consumers are inundated with choices. From the products they buy to the services they use; every decision is influenced by numerous factors. For businesses, the ability to decipher and anticipate these factors can mean the difference between success and obscurity. Marketing, once seen primarily as a tool for promotion, has evolved into a multidimensional discipline that shapes not only how products and services are presented but also how they are developed and delivered.

Consumer behavior is a multi-faceted area of research [1], a complex amalgamation of psychology, sociology, economics, and culture. It is a set of actions and reactions of the social subject in the field of consumption, which includes economic interest and social interaction [2]. A dynamic field that reflects not only what consumers want but why they want it, how they perceive value, and how they make choices. Understanding these nuances can empower businesses to craft products and experiences that resonate with consumers on a profound level. But it is no easy task since decision-makers in these domains encounter uncertainties and contradictions stemming from a plethora of variables, including consumer preferences, market dynamics, and global interconnectivity. That is why this article centers on Neutrosophy, a philosophical framework known for its capacity to address uncertainty and indeterminacy in complex phenomena.

Neutrosophy is a philosophical approach that focuses on ambiguity and uncertainty, and it is closely related to the concept of indeterminacy. The process of determining the degree of indeterminacy in a text involves identifying words or phrases that indicate uncertainty, vagueness, or ambiguity, and calculating a numerical value or category that reflects that degree of indeterminacy [3]. In this context, consumer choices are influenced by an intricate interplay of factors that do not neatly conform to conventional categorizations of positivity, negativity, or neutrality. The amalgamation of emotional responses, cultural influences, individual experiences, and economic considerations creates a mesh of complexity that challenges traditional binary models of analysis.

Neutrosophy provides a unique perspective for understanding marketing strategy and consumer behavior. It

encourages an acceptance of paradoxical decision-making, recognizing that choices may concurrently embody attraction and aversion, desirability, and uncertainty. This nuanced outlook allows for a more comprehensive exploration of consumer choices, acknowledging the inherent complexities.

This article examines Neutrosophic Marketing Strategy and Consumer Behavior, leveraging empirical research and philosophical insights. It investigates how Neutrosophy can guide the development of marketing strategies that align with consumers' multifaceted desires while accounting for the inherent ambiguities in their decisions. So, the scientific problem for this investigation is how to overcome the uncertainties inherent to consumer behavior to select a proper marketing strategy by using a Neutrosophic approach.

The objective of this investigation is to select a proper marketing strategy in a neutrosophic framework based on the complex ambiguities of consumer behavior. This framework uses the combination of the CRITIC multicriteria decision method within the context of a neutrosophic environment to model, analyze, and mitigate the intrinsic uncertainty and ambiguity inherent in consumer behavior. The study endeavors to achieve two secondary objectives: firstly, to enhance the precision and efficacy of marketing decision-making processes, and secondly, to improve the overall effectiveness of marketing strategies.

1.1 Marketing Strategies

A marketing strategy is a comprehensive plan formulated by an organization to achieve its specific marketing objectives and goals. It involves a systematic approach to identifying target markets, understanding consumer needs and preferences, developing competitive positioning, and outlining tactics for product development, pricing, promotion, and distribution. Effective marketing strategies aim to maximize an organization's market share, profitability, and long-term success by aligning its resources and activities with the demands of the market. [4]

A Marketing Strategy involves two major activities: selecting a target market and determining the desired positioning of the product in target customers' minds and specifying the plan for the marketing activities to achieve the desired positioning. [5]

There are many approaches when it comes to defining marketing strategies, but for the sake of this investigation, the following types of strategies will be considered:

1. Digital Marketing: All marketing initiatives that use technology or the internet [6]. Includes a range of online channels such as content marketing, social media marketing, Search Engine Optimization, email marketing, and Pay-Per-Click advertising.
2. Traditional Marketing [7]: Includes traditional marketing techniques, such as Print Marketing; TV and Radio Advertising; Direct Mail Marketing; Telemarketing, etc.
3. Experiential Marketing: Engages customers through immersive, in-person, or online experiences that create a strong emotional connection with your brand.
4. Event Marketing: Hosting or participating in events like trade shows, conferences, and product launches to engage with your target audience.
5. Cause Marketing: Aligning your brand with a social or environmental cause to build goodwill and increase brand loyalty.
6. Augmented Reality (AR) Marketing: Utilizing AR technology to provide interactive and immersive experiences to consumers, enhancing brand engagement.

1.2 Augmented reality

Augmented reality (AR) is a technology-driven concept that involves overlaying digital information or computer-generated content onto the real-world environment. It aims to enhance the user's perception of the physical world by integrating virtual elements, such as images, sounds, or data, with the surroundings they see and interact with. AR technology is often used through devices like smartphones, smart glasses, or headsets, enabling users to experience an enriched and interactive environment. Augmented reality is employed in various fields, including entertainment, education, healthcare, and industry, to provide users with a more engaging and informative experience, ultimately bridging the gap between the digital and physical realms.[8-16]

AR finds diverse applications across various sectors, including gaming, education, healthcare, architecture, retail, and more. It enhances experiences by overlaying digital content in the real world, whether for immersive gaming, interactive education, or precise medical procedures. Moreover, AR holds significant potential in marketing, offering innovative ways to engage customers, such as virtual try-ons, interactive product visualizations, and location-based marketing. Its ability to bridge the digital and physical realms makes AR a valuable tool for enhancing marketing strategies, creating immersive brand experiences, and driving consumer engagement.

2 Materials and Methods

2.1 Neutrosophic preliminaries

Definition 1. Let X be a space of points (objects) with generic elements in X denoted by x. A single-valued neutrosophic set (SVNS) A in X is characterized by the truth-membership function T_A (x), indeterminacy-membership function I_A (x), and falsity membership function F_A (x). Then, an SVNS A can be denoted by $A = \{x, TA(x), IA(x), FA(x)\ x \in X\}$, where T_A (x), I_A (x), F_A (x) ∈ [0,1] for each point x in X. Therefore, the sum of T_A (x), I_A (x) and F_A (x) satisfies the condition $0 \leq T_A(x) + I_A(x) + F_A(x) \leq 3$. [9-17-18-19-20]

For convenience, a Single-Valued Neutrosophic Number (SVNN) is denoted by A = (□ □ □), where a, b, c ∈ [0,1] and a + b + c ≤ 3

Definition 2. Let A = (a, b, c) be an SVNN and $\lambda \in \mathbb{R}$ an arbitrary positive real number, then:

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

Definition 3. Let $A^* = \{A_1^*, A_2^*, \dots, A_n^*\}$ be a vector of n SVNNs, such that $A_j^* = (a_j^*, b_j^*, c_j^*)$ (j= 1,2,…,n), and $B_i = \{B_{i1}, B_{i2}, \dots, B_{im}\}$ (i= 1,2,…,m), (j= 1,2,…,n). Then the separation measure between B_i and A^* based on Euclidian distance is defined as follows:

$$s_i = \left(\frac{1}{3}\sum_{j=1}^{n}\left(|a_{ij} - a_j^*|\right)^2 + \left(|b_{ij} - b_j^*|\right)^2 + \left(|c_{ij} - c_j^*|\right)^2\right)^{\frac{1}{2}} \tag{2}$$

(i= 1, 2, …, m)

Definition 4. Let $A = \{A_1, A_2, \dots, A_n\}$ be a set of n SVN numbers, where $A_j = (a_j, b_j, c_j)$ (j= 1,2,…,n). The single-value neutrosophic weighted average operator on them is defined by

$$\sum_{j=1}^{n}\lambda_j A_j = \left(1 - \prod_{j=1}^{n}\left(1 - a_j\right)^{\lambda_j}, \prod_{j=1}^{n} b_j^{\lambda_j}, \prod_{j=1}^{n} c_j^{\lambda_j}\right) \tag{3}$$

Where λ_j is the weight of A_j (j= 1,2,…,n), $\lambda_j \in [0,1]$ and $\sum_{j=1}^{n}\lambda_j = 1$

Next, a score function for ranking SVNNs is proposed as follows:

The value of a linguistic variable is expressed as an element of its term set. The concept of linguistic variables is very useful for solving decision-making problems with complex content. For example, the performance ratings of alternatives on qualitative attributes can be expressed by linguistic variables such as very important, important, medium, unimportant, very unimportant, etc. Such linguistic values can be represented using single-valued neutrosophic numbers.

In MCDM problems, there are k decision-makers, m different alternatives to consider, and n distinct criteria to be evaluated. These k decision-makers assess the weights of the m alternatives with respect to the n criteria and subsequently rank the performance of these criteria based on linguistic terms that have been transformed into single-valued neutrosophic numbers. In this context, decision-makers frequently assess the weights of the criteria by using common words (linguistic terms) since it is a more natural way to express their assessments. The linguistic terms used in this investigation are detailed in Table 1.

Table 1: Linguistic terms used and the corresponding SVNNs. Source: own elaboration.

Linguistic Term	SVNN
Very Influential	(0.9;0.1;0.1)
Influential	(0.75;0.25;0.20)
Moderately Influential	(0.50;0.5;0.50)
No Influential	(0.35;0.75;0.80)
Unrelated	(0.10;0.90;0.90)

Definition 5. Deneutrosophication is the process of obtaining a real number from a neutrosophic number. In this research, deneutrosophication will be obtained using the following equation.

$$s(V_i) = 2 + T_i - F_i - I_i \quad (4)$$

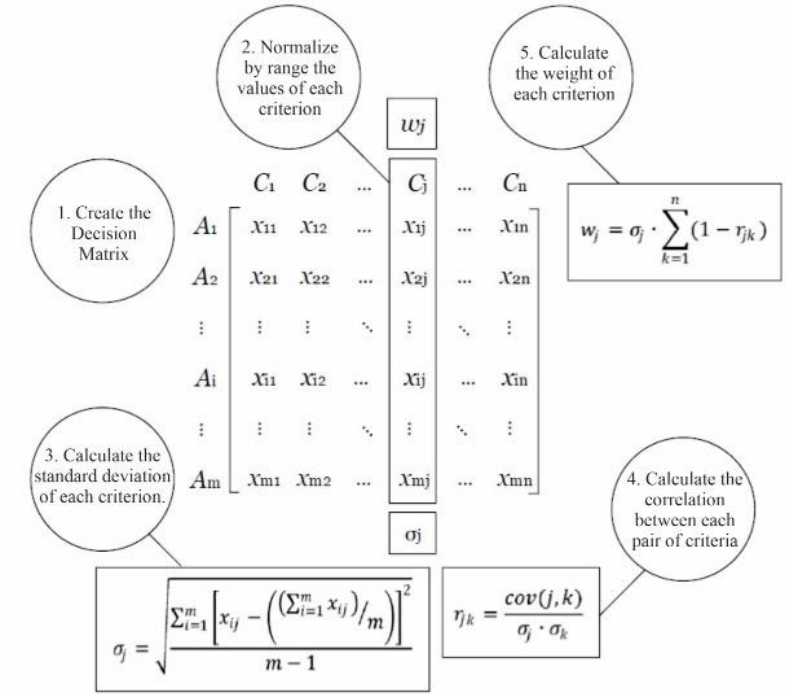
2.2 CRITIC Method

Multi-criteria decision-making (MCDM) is one of the main decision-making problems that aims to determine the best alternative by considering more than one criterion in the selection process. MCDM has manifold tools and methods that can be applied in different fields from finance to engineering design. [10, 15]

Several types of MCDM methods have been developed or improved by different authors during the last decades. The main differences between these methods are related to the complexity level of algorithms, the weighting methods for criteria, the way of representing preferences evaluation criteria, uncertain data possibility, and finally, data aggregation type [11]. One of those methods is the CRITIC technique.

CRITIC (**CR**iteria **I**mportance **T**hrough **I**ntercriteria **C**orrelation) is an approach that stands out in the context of multi-criteria decision-making methods. This method was proposed by [12] in the late 20th century. CRITIC is classified as a comparative method, as it allows for the determination of weights for all criteria or variables without being influenced by decision-makers' preferences. The weights are calculated based on the information in the decision matrix, with greater weight assigned to criteria as their variance (greater standard deviation - SD) increases, indicating that they provide more information compared to other criteria (lower correlation coefficient between the criteria). [13]

Figure 1: CRITIC method calculation procedure. Source: [14]



In order to better capture the indeterminacy of consumer behavior when analyzing the marketing strategies, the CRITC method will be complemented by incorporating SVNN in the assessment of the experts. The method will be enhanced by neutrosophy with the incorporation of the use of linguistic terms and SVNNs to evaluate the alternatives. The steps to be carried out for the completion of the neutrosophic version of the CRITIC method are described below:

Step 1. Create the Decision Matrix.
Step 2. Normalize by range the values of each criterion.
Step 3. Calculate the Standard Deviation (SD) of each criterion.
Step 4. Calculate the correlation between each pair of criteria.
Step 5. Calculate the weight of each criterion.

3 Results

For the selection of the best marketing strategy, 6 main types of marketing strategies (alternatives) were defined. Those alternatives are listed below:

1. Digital Marketing
2. Traditional Marketing
3. Experiential Marketing
4. Event Marketing
5. Cause Marketing
6. Augmented Reality Marketing

To assess those alternatives from various perspectives and to make an informed decision based on consumer behavior, the following criteria were identified (Table 2):

Table 2: Criteria to be considered for the assessment of the alternatives. Source: own elaboration.

Criterion	Code	Description
Reach and Visibility	C1	Assess how effectively each marketing strategy reaches and engages the target audience. Consider the potential for brand exposure and the ability to capture consumer attention.
Conversion Rate	C2	Evaluate the strategy's effectiveness in converting consumer interest into actual sales or desired actions. This could include conversion rates from leads to customers.
Consumer Engagement	C3	Measure the level of consumer engagement and interaction with the marketing strategy. This might involve analyzing social media engagement, customer feedback, or participation in campaigns.
Cost-Effectiveness	C4	Analyze the cost efficiency of each marketing strategy, considering factors like return on investment and the overall cost of implementation
Market Research and Adaptability	C5	Examine the strategy's ability to adapt to changing consumer behavior. Consider the inclusion of market research and the strategy's responsiveness to emerging trends.
Brand Image and Customer Loyalty	C6	Evaluate the impact on the brand's image and the ability to build long-term customer loyalty. Assess the strategy's effectiveness in fostering positive brand perception and repeat business.

In order to better test the proposed method and to be able to compare the results, it will be applied to three different sectors of the industry. Namely, Restaurants, Fashion Retail, and Real estate, which allows to tailor the evaluation criteria to the specific characteristics and consumer behaviors unique to each sector. This multi-industry approach will not only help validate the method's universality but also provide practical guidance for stakeholders in the addressed fields. The resulting aggregate decision matrix after obtaining the experts' assessments of each of the alternatives based on the selected criteria (see Table 3, 4, and 5).

Table 3: Decision Matrix for the Food Industry sector (Restaurants) using linguistic terms. Source: own elaboration.

Alternatives	C1	C2	C3	C4	C5	C6
A1	I	MI	I	MI	I	I
A2	I	MI	MI	I	MI	MI
A3	I	VI	I	MI	I	I
A4	VI	I	VI	MI	I	VI
A5	I	MI	I	I	U	I
A6	NI	I	I	MI	I	MI

Table 4: Decision Matrix for the Fashion Retail sector using linguistic terms. Source: own elaboration.

Alternatives	C1	C2	C3	C4	C5	C6
A1	I	MI	NI	I	MI	I
A2	I	I	MI	I	MI	I
A3	VI	VI	I	I	I	I
A4	MI	I	MI	VI	I	VI
A5	MI	MI	I	MI	I	I
A6	MI	VI	I	MI	I	I

Table 5: Decision Matrix for the Real State sector using linguistic terms. Source: own elaboration.

Alternatives	C1	C2	C3	C4	C5	C6
A1	VI	I	MI	VI	MI	VI
A2	I	I	I	I	NI	I
A3	MI	MI	VI	I	I	I
A4	I	I	VI	VI	MI	VI
A5	I	I	I	I	I	I
A6	MI	MI	VI	I	VI	I

The linguistic terms are converted into SVNNs applying the information provided in Table 1. The resulting matrixes are shown below in Table 6, 7, and 8.

Table 6: Decision Matrix for the Food Industry sector (Restaurants) using SVNNs. Source: own elaboration.

Alternatives	C1	C2	C3	C4	C5	C6
A1	(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)	(0.75;0.25;0.20)
A2	(0.75;0.25;0.20)	(0.50;0.5;0.50)	(0.50;0.5;0.50)	(0.75;0.25;0.20)	(0.50;0.5;0.50)	(0.50;0.5;0.50)
A3	(0.75;0.25;0.20)	(0.9;0.1;0.1)	(0.75;0.25;0.20)	(0.50;0.5;0.50)	(0.75;0.25;0.20)	(0.75;0.25;0.20)
A4	(0.9;0.1;0.1)	(0.75;0.25;0.20)	(0.9;0.1;0.1)	(0.50;0.5;0.50)	(0.75;0.25;0.20)	(0.9;0.1;0.1)
A5	(0.75;0.25;0.20)	(0.50;0.5;0.50)	(0.75;0.25;0.20)	(0.75;0.25;0.20)	(0.10;0.90;0.90)	(0.75;0.25;0.20)
A6	(0.35;0.75;0.80)	(0.75;0.25;0.20)	(0.75;0.25;0.20)	(0.50;0.5;0.50)	(0.75;0.25;0.20)	(0.50;0.5;0.50)

Table 7: Decision Matrix for the Fashion Retail sector using SVNNs. Source: own elaboration.

Alternatives	C1	C2	C3	C4	C5	C6
A1	(0.75;0.25;0.20)	(0.50;0.5;0.50)	(0.35;0.75;0.80)	(0.75;0.25;0.20)	(0.50;0.5;0.50)	(0.75;0.25;0.20)
A2	(0.75;0.25;0.20)	(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)
A3	(0.9;0.1;0.1)	(0.9;0.1;0.1)	(0.75;0.25;0.20)	(0.75;0.25;0.20)	(0.75;0.25;0.20)	(0.75;0.25;0.20)
A4	(0.50;0.5;0.50)	(0.75;0.25;0.20)	(0.50;0.5;0.50)	(0.9;0.1;0.1)	(0.75;0.25;0.20)	(0.9;0.1;0.1)
A5	(0.50;0.5;0.50)	(0.50;0.5;0.50)	(0.75;0.25;0.20)	(0.50;0.5;0.50)	(0.75;0.25;0.20)	(0.75;0.25;0.20)
A6	(0.50;0.5;0.50)	(0.9;0.1;0.1)	(0.75;0.25;0.20)	(0.50;0.5;0.50)	(0.75;0.25;0.20)	(0.75;0.25;0.20)

Table 8: Decision Matrix for the Real State sector using SVNNs. Source: own elaboration.

Alternatives	C1	C2	C3	C4	C5	C6
A1	(0.9;0.1;0.1)	(0.75;0.25;0.20)	(0.50;0.5;0.50)	(0.9;0.1;0.1)	(0.50;0.5;0.50)	(0.9;0.1;0.1)
A2	(0.75;0.25;0.20)	(0.75;0.25;0.20)	(0.75;0.25;0.20)	(0.75;0.25;0.20)	(0.35;0.75;0.80)	(0.75;0.25;0.20)
A3	(0.50;0.5;0.50)	(0.50;0.5;0.50)	(0.9;0.1;0.1)	(0.75;0.25;0.20)	(0.75;0.25;0.20)	(0.75;0.25;0.20)
A4	(0.75;0.25;0.20)	(0.75;0.25;0.20)	(0.9;0.1;0.1)	(0.9;0.1;0.1)	(0.50;0.5;0.50)	(0.9;0.1;0.1)
A5	(0.75;0.25;0.20)	(0.75;0.25;0.20)	(0.75;0.25;0.20)	(0.75;0.25;0.20)	(0.75;0.25;0.20)	(0.75;0.25;0.20)
A6	(0.50;0.5;0.50)	(0.50;0.5;0.50)	(0.9;0.1;0.1)	(0.75;0.25;0.20)	(0.9;0.1;0.1)	(0.75;0.25;0.20)

To go on with the calculation process, the SVNNs are converted into crisp numbers through a process of deneutrosophication using Equation 4. Subsequently, the process continues until the weights of the criteria are calculated and the raking of the alternatives is determined (see Table 9, 10, and 11).

Table 9: Weights, normalized weightings and ranking for the Food Industry sector. Source: own elaboration.

Alternatives	C1	C2	C3	C4	C5	C6	Weighting	Norm. weighting	Ranking
A1	0.7895	0.0000	0.6667	0.0000	1.0000	0.6667	0.4232	0.1377	2
A2	0.7895	0.0000	0.0000	1.0000	0.6000	0.0000	0.5093	0.1657	3
A3	0.7895	1.0000	0.6667	0.0000	1.0000	0.6667	0.5895	0.1918	5
A4	1.0000	0.6667	1.0000	0.0000	1.0000	1.0000	0.6370	0.2073	6
A5	0.7895	0.0000	0.6667	1.0000	0.0000	0.6667	0.5598	0.1822	4
A6	0.0000	0.6667	0.6667	0.0000	1.0000	0.0000	0.3542	0.1153	1

Table 10: Weights, normalized weightings and ranking for the Fashion Retail sector. Source: own elaboration.

Alternatives	C1	C2	C3	C4	C5	C6	Weighting	Norm. weighting	Ranking
A1	0.6667	0.0000	0.0000	0.6667	0.0000	0.0000	0.2407	0.0819	1
A2	0.6667	0.6667	0.4667	0.6667	0.0000	0.0000	0.4102	0.1396	3
A3	1.0000	1.0000	1.0000	0.6667	1.0000	0.0000	0.7930	0.2699	6
A4	0.0000	0.6667	0.4667	1.0000	1.0000	1.0000	0.6647	0.2262	5
A5	0.0000	0.0000	1.0000	0.0000	1.0000	0.0000	0.3450	0.1174	2
A6	0.0000	1.0000	1.0000	0.0000	1.0000	0.0000	0.4852	0.1651	4

Table 11: Weights, normalized weightings and ranking for the Real State sector. Source: own elaboration.

Alternatives	C1	C2	C3	C4	C5	C6	Weighting	Norm. weighting	Ranking
A1	1.0000	1.0000	0.0000	1.0000	0.3684	1.0000	0.6726	0.2094	5
A2	0.6667	1.0000	0.6667	0.0000	0.0000	0.0000	0.3983	0.1240	2
A3	0.0000	0.0000	1.0000	0.0000	0.7895	0.0000	0.3580	0.1114	1
A4	0.6667	1.0000	1.0000	1.0000	0.3684	1.0000	0.8330	0.2593	6
A5	0.6667	1.0000	0.6667	0.0000	0.7895	0.0000	0.5513	0.1716	4
A6	0.0000	0.0000	1.0000	0.0000	1.0000	0.0000	0.3988	0.1241	3

4 Discussion

For the case of the Food Industry sector, the best alternative is Augmented Reality Marketing, which is an interesting result since it is indeed a very good strategy for that sector, and it has started to become a trend in the recent times. For example, in restaurants, customers can scan a QR code or use a mobile app to view 3D models of menu dishes in AR, which entails several benefits, such as Enhanced Menu Visualization: where, for example, customers can see realistic 3D representations of menu items, helping them make more informed choices; Increased Engagement: because AR menus provide an interactive and engaging dining experience; and Reduced Language Barriers: since visualizing dishes in 3D can help overcome language barriers and boost international customer appeal.

On the other hand, for the Fashion Retail field, the best Alternative is Digital Marketing, A well-executed Digital Marketing strategy can offer several benefits to companies in the Fashion Retail sector. Digital marketing can significantly enhance a fashion brand's online visibility through tactics like search engine optimization and paid advertising. It also allows for precise audience targeting. Fashion retailers can reach their ideal customers based on demographics, interests, and online behavior. A good digital strategy can drive traffic to the company's e-commerce website, thus increasing online sales. In summary, a well-planned and executed Digital Marketing strategy can drive brand awareness, increase online sales, and improve customer engagement for fashion retailers.

As for the Real Estate sector, the best alternative is Experiential Marketing. An Experiential Marketing strategy can greatly benefit the Real Estate sector by providing potential buyers with immersive and memorable experiences that transcend traditional property viewings. Through technologies like virtual reality, prospective buyers can take virtual tours of properties, exploring them from the comfort of their own homes. This approach offers a more engaging and interactive way to showcase properties, allowing clients to envision themselves in their future homes, assess details, and gauge the spatial feel more effectively. Additionally, experiential marketing can enhance the emotional connection between buyers and properties, leading to increased sales and greater customer satisfaction, as it addresses the often emotionally charged nature of real estate decisions.

Conclusion

Selecting a proper marketing strategy based on customer behavior is a complex decision to make as it is included in the multicriteria decision methods framework. It should be noticed that it is even more complex due to the uncertainty inherent in consumer behavior itself. The use of Neutrosophy in such uncertain or indeterminate settings proves to be a valuable tool, as it allows the incorporation of uncertainty into the model.

The CRITIC method, when enhanced with the use of Neutrosophy, better captures the complexity of consumer behavior and allows for better modeling of situations where indeterminacy is involved.

According to the results obtained, the best marketing strategies based on consumer behavior and the criteria of experts processed through the CRITIC neutrosophic method are Augmented Reality Marketing, Digital Marketing and Experiential Marketing for the sectors Food Industry, Fashion Retail, and Real State, respectively. As a common feature, all those strategies are somehow related and can be enhanced with the use of technology. Which is in accordance with the modern world trends and confirms that companies should conceive their Marketing Strategies taking advantage of the use of new technologies in order to obtain better results.

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