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NAVIGATING "ATMOSFEAR": AN AHP ANALYSIS OF ATMOSFEAR PESTLE FACTORS

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ABSTRACT

The "atmosfear" trend, coined by "Faith Popcorn", is essentially a combination of the words atmosphere and fear. In late 20th and early 21st century societies, this trend is often used to describe the feelings of uncertainty, fear and anxiety that people feel in their daily lives. This feeling of uncertainty and fear is often caused by societal, political, economic, social, technological, legal and environmental factors.

This work investigates which factors are most effective in understanding the societal 'uncanny valley' through the Analytical Hierarchical Process (AHP) method, determining the weights of PESTLE factors through pairwise comparisons. In this context, the factor that influenced the concept of Atmosfear the most was "technology". AHP analysis was carried out with the statements given by 5 participants with at least 15 years of experience from the business world, public sector, academia and non-governmental organizations and communication sector. In the ecosystem in which societies are located, all technological components, especially artificial intelligence and big data, have become the most important factor of the concept of Atmosfear by overcoming environmen-

tal concerns with the impact of technological and digital transformation after Covid-19. This section, which includes important recommendations for lawmakers, real sectors and academia, makes the study unique both because there are few studies on the concept of Atmosfear regarding Faith Popcorn trends and because the issue is realized by combining PESTLE factors and AHP analysis.

Keywords: Atmosfear, Uncanny Valley, PESTLE, AHP, Future Trends

1. INTRODUCTION

In the first quarter of the twenty-first century, interaction and collaboration between various stakeholders such as business, public policy, academia, media and non-governmental organizations are becoming increasingly complex. Understanding and managing the interaction between these various stakeholders is critical to the sustainability of businesses and social well-being. The main reason for this is that Atmosfear is a concept that is effective on human behavior (Mersal, 2018).

In this section, the concept of Atmosfear is analyzed with PESTLE Analysis and Analytical Hierarchy Process (AHP) and it is investigated how it gains meaning and how it plays a guiding role in the business world, public, academia, media and non-governmental organizations. This concept will help businesses understand the most basic Market and Marketplace phenomena (Sharma, 2017), especially the areas in which they operate, and most importantly, environmental factors, make strategic decisions and provide value to society.

While the concept of atmosphere expresses the complexity of factors in the internal and external environment of businesses, PESTLE Analysis allows evaluating the effects of political, economic, social, technological, legal and environmental factors on businesses. Additionally, AHP Analysis is a method used to determine the priorities of these factors in decision-making processes.

From the business perspective, these concepts have an important role in strategic planning processes to increase the competitiveness of

businesses and achieve sustainable success. From the public perspective, these concepts can be guiding in determining public policies and making regulations. From an academic perspective, these concepts help researchers understand and direct the change in the business world, while media and non-governmental organizations have an important role to understand and convey how society reacts to this change and how it is affected.

In this section, an original study was conducted by considering the concepts of Atmosfear, PESTLE Analysis and AHP Analysis together. There are very few studies on "Atmosfear" in the literature. We will examine how it can direct the interaction and cooperation between the business world, public, academia, media and non-governmental organizations.

2. ATMOSFEAR FROM THE PERSPECTIVES OF ACADEMY, GOVERNMENT, INDUSTRY, NGO AND MEDIA

In this section, the focuses of interest are discussed one by one. The perspective of each focus of interest on the concept of Atmosfear was evaluated, with the main topic being Atmosfear. Subsequently, the findings of a research conducted on the web of science were shared and a brief evaluation was made. The reason for looking at the subject as five components and five main sectors is based on the triple helix model put forward by Etzkowitz (Etzkowitz, 2002; Koç & Mente, 2007), developed by Güllük (Güllük, 2021).

2.1. Real Sector: Business Perspective

In today's business world, where competition is rapidly increasing, technological developments are pushing the limits and consumer preferences are constantly evolving, the success of businesses depends on various factors. Analysis and understanding of these factors play a critical role in strategic decision-making processes.

In this section, we will examine how the factors in the internal and external environment of businesses, which we call "Atmosfear", especially PESTLE (Political, Economic, Social, Technological, Legal and Environmental) factors, affect the activities of a business. Additionally, by using the Analytic Hierarchy Process (AHP) method in the analysis of these factors, we will present a framework that will help businesses make strategic decisions more consciously.

The concept of atmosphere expresses the complexity and interaction of factors in the internal and external environment of businesses. Businesses have to adapt to constantly changing conditions in order to survive in this atmosphere and gain competitive advantage. For this reason, the importance of PESTLE factors and AHP analysis in the strategic planning processes of businesses is increasing. For example, agreements made in many areas such as environmental impacts and green agreement cause major changes in terms of businesses, and institutions that do not adapt to climate changes are negatively affected in terms of their competitive advantage (Jankovic, Schultz, 2016).

In this section, we will discuss the effects of PESTLE factors on businesses and the role of AHP analysis in evaluating these effects, along with an in-depth examination of the Atmosfear concept. It is vital for businesses to be aware of these factors and make their strategic decisions in this context to ensure their long-term success.

2.2. Governmental Perspective

Today, the business world has a structure that is constantly changing and evolving with economic and social developments. The success of businesses depends not only on their internal dynamics but also on external factors. These external factors are shaped within a framework determined by the policies and laws of the state.

In this section, it is examined how Atmosfear, in which businesses operate, is affected by public policies and regulations. In particular, we will evaluate the effects of PESTLE (Political, Economic, Social, Techno-

logical, Legal and Environmental) factors on the state's policy makers and legislators. Additionally, we will try to understand the effects of public policies on businesses in more detail by using the Analytical Hierarchy Process (AHP) method in the analysis of these factors.

The success of businesses is closely related to government policies and regulations. Public policies include the rules, incentives and restrictions set in the areas in which businesses operate. These policies affect the competitiveness, sustainability and social responsibility of businesses.

In this section, we will try to understand the role and impact of the state on businesses by examining the interaction between the transforming dynamics of the business world and public policies. We also aim to provide a more comprehensive perspective by using AHP analysis to determine the effects of public policies on businesses.

2.3. Academic Perspective

Today's business world has a constantly changing and evolving structure. These changes increase the complexity of factors in the internal and external environments of businesses. Businesses have to make strategic decisions in order to survive in this complex atmosphere and gain competitive advantage. In this context, the concept of Atmosfear expresses the interaction and complexity of factors in the internal and external environment of businesses.

To understand the concept of atmosphere, it is necessary to analyze the environmental factors in which businesses operate. In this analysis, the impact of PESTLE (Political, Economic, Social, Technological, Legal and Environmental) factors are examined and play an important role in determining the strategic decisions of businesses. In addition, the methods used in the analysis of these factors add value to the strategic planning processes of businesses.

From an academic perspective, it is important to bring together the concept of Atmosfear and the changing dynamics in the business world.

This combination provides a critical framework for understanding how businesses interact with environmental factors and shape their strategic decisions. Academic research is important to understand the dynamics of the business world and to make strategic decisions that will help businesses gain competitive advantage.

In this section, we will examine how the concept of Atmosfear can be related to the changing dynamics in the business world and how academic research can help understand this relationship. Additionally, by focusing on the methods used to understand the effects of PESTLE factors on businesses in more depth, we will investigate how businesses can benefit from their strategic planning processes.

2.4. From the Perspective of Non-Governmental Organizations

Non-governmental organizations are important actors working for change and development in various areas of society. These organizations raise awareness on various issues, provide policy recommendations, and support social change. While the concept of atmosphere expresses the complexity and interaction of environmental factors in which non-governmental organizations operate, PESTLE and AHP Analysis provide important tools for understanding and prioritizing these factors.

2.5. From the Perspective of Media

Media is an important actor that provides society with access to information and interprets social events. We will examine the concept of Atmosfear, how the media deals with news and analysis about business and social change, and what role PESTLE and AHP Analysis can play in this context.

The media provides extensive reports on changing dynamics in business and social events. While the concept of atmosphere reflects the complexity and interaction of factors in the internal and external environment of businesses, the media interprets and analyzes these factors through news. Political events, economic fluctuations, social trends,

technological developments, legal changes and environmental issues are frequently covered in the news.

2.6. Literature Review: A Bibliometric Analysis on Web of Science

Bibliometric analysis of literature reviews was performed with the vosviewer program, an application program that evaluates artificial intelligence and big data. It has been observed that conducting bibliometric analysis on the web of science and on different umbrella websites such as Scopus or Pubmed does not produce very different results in terms of social sciences. For this reason, only web of science was chosen (Öz & Kalkan, 2023).

In the study, keywords containing the word Atmosfera in all fields and future trends in the topic section were questioned. The SQL query is expressed as follows:

(ALL=(Atmosfear) OR TS=("Future Trends"))

The result obtained is the existence of 2,513 studies. (As of 24 March 2024: 17:00)

The keyword analysis given by the binliometric analysis of 2,513 studies through the vosviewer program is shown in Fig. 1.

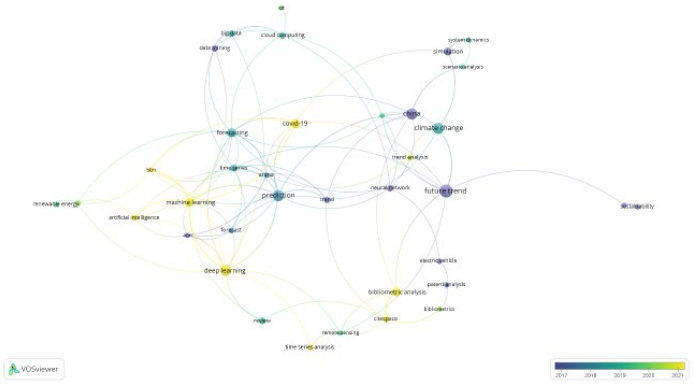

Figure 1: Vosviewer keyword analysis of the query's output obtained via Web of Science (Clarivate, 2024)

According to Figure 1, a literature review in which the words Atmosfear or future trend are evaluated together appears to be shaped more on technology and especially artificial intelligence and deep learning. Studies on climate change have been included in relatively earlier studies. However, it seems that the academy has focused on studies based on future trends in recent years, mostly on studies associated with climate change and using digital transformation arguments.

On the other hand, when looking at work intensities, vosviewer provides an output as in Fig. 2.

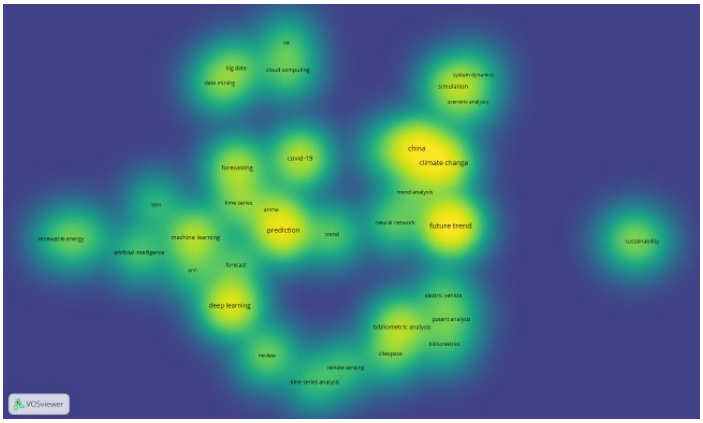

Figure 2: Vosviewer keyword density analysis of the query's output obtained via Web of Science (Clarivate, 2024)

According to Figure 2, while future trends are shaped on digital transformation components, especially artificial intelligence and deep learning, there is also a significant concentration of intense studies on climate change based on the understanding of environmental sustainability.

This study has a distinctive feature because it addresses not only the aspect of the Atmosfear concept based on digital transformation and environmental factors, but also other factors of PESTLE. It is stated that Atmosfear also has a significant cultural impact (Seamon & Mugerauer, 2015).

3. METHODOLOGY: AHP ON PESTLE FACTORS

Although the concept of atmosphere is an environmental concept in perception, it can be considered to include PESTLE factors in terms of its content and scope. With this in mind, the study carried out in this part of the book will be important in terms of understanding what kind of definition the representatives of the above-mentioned dynamics (academia, public, non-governmental organizations, media and industry) bring to the concept of atmosphere. For this purpose, an Analytical Hierarchical Process (AHP) analysis was performed. For AHP, 6 PESTLE factors are presented as input. The contents of PESTLE and AHP methodologies are briefly explained below.

3.1. PESTLE Analysis

PESTLE analysis is used in many areas and constitutes an important decision-making mechanism in terms of the factors it contains (Öz et al, 2021). The factors involved are briefly introduced in this section.

Political Factors: For non-governmental organizations, political factors include elements such as government policies, legal regulations and political stability. These factors enable the identification and advocacy of effective policy changes in the field in which organizations operate (Elder 2008).

Economic Factors: Economic factors affect the financial resources of non-governmental organizations. Economic recessions, budget constraints, or economic growth can impact organizations' ability to finance their work and serve society.

Social Factors: Social factors such as social values, demographic changes and consumer trends help non-governmental organizations understand the needs of the society in which they operate and shape their services accordingly (Doherty et al, 2012).

Technological Factors: Technological advances change the effective communication and working methods of non-governmental organizations. These factors enable organizations to be more efficient and ef-

fective. Especially, via artificial intelligence studies, uncanny valley has appeared. Machine Learnin, deep learning and additional generative artificial intelligence studies, cause to feel unsafe for especially employees both white and blue-colored (Dederichs, 2023).

Legal Factors: Legal factors include the legal framework and regulations that regulate the activities of non-governmental organizations. These factors enable organizations to operate within legal limits.

Environmental Factors: Environmental factors cover issues such as sustainable use of natural resources, environmental protection and climate change. Non-governmental organizations develop and implement projects for society and the environment, taking into account environmental factors.

In this section, the purpose of applying PESTLE analysis for Atmosfear is to determine the basic political, economic, social, technological, legal and ecological trends that will affect businesses and institutions in the next decade, along with the examination of secondary data of each field, the opinions and evaluations of experts on the subject. to conduct interviews and thus create a data set with a qualitative approach (Bakoğlu, 2016).

3.2. AHP Analysis

Analytical Hierarchy Process (AHP) is a method used in prioritizing the activities of non-governmental organizations and in strategic decision-making processes. AHP analysis helps organizations identify their various goals and values, while allowing them to effectively manage their resources by prioritizing PESTLE factors.

AHP method divides the problem into small parts and organizes the logical process by determining priorities for each hierarchy with a pairwise comparison method. (Saaty, 2000).

AHP is a widely used method among multi-criteria decision-making techniques. The analysis allows weighting with the criteria given in Table 1, based on the pairwise comparison of the criteria it considers. The

calculations in Table 2 and Table 3 are completed by testing the Eigene value, randomness index and finally the consistency index in the decision matrix (Saaty & Vargas, 2001).

In this section, we examined how non-governmental organizations can handle the concept of Atmosfear within the framework of PESTLE and AHP Analysis. These analyzes help organizations understand the environmental factors affecting their activities and make strategic decisions in this context.

4. APPLICATION AND ANALYSIS

The results obtained as a result of the semi-structured interview conducted with one representative from Academy, Public, Industry, Media and Non-Governmental Organizations are shown in Table 3. Each representative has at least 15 years of experience in their field. The study was carried out with the approval of the Brain Team (Abbreviated as BeTa) Scientific Association, Science and Arbitration Board Ethics Committee, for the sole purpose of contributing to science within the scope of scientific purposes. PESTLE factors included in this study are expressed with the codes Cr1, Cr2, Cr3, Cr4, Cr5 and Cr6.

5 Participants were asked which factor the Atmosfear concept was more related to, using the pairwise comparison method for the factors Cr1, Cr2, Cr3, Cr4, Cr5, Cr6 and the importance level was asked to be given from 1 to 9. Answers were received in such a way that the participant's answer of 9 indicates that the factor he/she considers important is the highest level of importance compared to the other factor, and his answer of 1 indicates that it has equal weight. This rating can be seen in Table 1.

Table 1: The Fundamental Scale

Intensity of importance on an absolute scale	**Definition**	**Explanation**
1	Equal importance	Two factors contribute equally to the objective
3	Moderate importance of one over another	Experience and judgment strongly favor one facror over another
5	Essential or strong importance	Experience and judgment strongly favor one factor over another
7	Very strong importance	A factor is strongly favored and its dominance demonstrated in practice
9	Extreme importance	The evidence favoring one factor over another is of the highest possible order of affirmation
2,4,6,8	Intermediate values between the two adjacent judgments	When compromise is needed
Reciprocals	If factor i has one of the above numbers assigned to it when compared with factor j, then j has the reciprocal value when compared with i	
Rationals	Ratios arising from the scale	If consistency were to be forced by obtaining n numerical values to span the matrix

Source: *(Saaty, 1987)*

As stated in Table 1, each factor is evaluated in pairs with another factor, receives a degree of importance, and is included in the calculations. Since 5 different phenomena were used in this study, the geometric mean was evaluated for each comparison. For example, do you think the technological or environmental factor is more effective in the emergence of the Atmosfear concept? Depending on the answer to the question, whichever factor is considered important, it is requested to give a priority coefficient between 1-9. In this case, the opinions in Table 2 were taken.

Tablo 2: Pairwise Comparison of Technological and Environmental Factors for Atmosfear

Participants	Academia	Goverment	Industry	Media	NGO
Factor	Technology	Technology	Environment	Technology	Technology
Importance	1	2	4	2	3

Source: *(Author, 2024)*

Based on the opinions obtained in Table 2, the geometric mean in the comparison of the Technology and Environment factor was calculated as follows:

Importance Coefficient = [1*2*(1/4)*2*3]^(1/5) = 1,246

In Fig. 3, the Matrixes are shown for AHP Analysis of PESTLE factors for Atmosfear.

Initial Matrix

	Cr1	Cr2	Cr3	Cr4	Cr5	Cr6
Cr1	**1,000**	0,370	0,461	0,457	1,149	0,833
Cr2	2,702	**1,000**	1,320	0,265	1,320	0,297
Cr3	2,169	0,758	**1,000**	0,450	1,974	0,478
Cr4	2,187	3,776	2,221	**1,000**	4,441	1,246
Cr5	0,871	0,758	0,506	0,225	**1,000**	0,165
Cr6	1,201	3,366	2,091	0,803	6,063	**1,000**
Sum	10,129	10,028	7,599	3,200	15,947	4,018

Normalized Matrix

	Cr1	Cr2	Cr3	Cr4	Cr5	Cr6	weight
Cr1	0,099	0,037	0,061	0,143	0,072	0,207	**0,103**
Cr2	0,267	0,100	0,174	0,083	0,083	0,074	**0,130**
Cr3	0,214	0,076	0,132	0,141	0,124	0,119	**0,134**
Cr4	0,216	0,377	0,292	0,312	0,279	0,310	**0,298**
Cr5	0,086	0,076	0,067	0,070	0,063	0,041	**0,067**
Cr6	0,119	0,336	0,275	0,251	0,380	0,249	**0,268**
Sum	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**	

Decision Matrix and Consistancy Test

	Cr1	Cr2	Cr3	Cr4	Cr5	Cr6	sum	sum/weight
Cr1	0,103	0,048	0,062	0,136	0,077	0,223	0,649	**6,301**
Cr2	0,278	0,130	0,177	0,079	0,088	0,080	0,832	**6,407**
Cr3	0,224	0,098	0,134	0,134	0,132	0,128	0,851	**6,343**
Cr4	0,225	0,491	0,298	0,298	0,298	0,334	1,943	**6,530**
Cr5	0,090	0,098	0,068	0,067	0,067	0,044	0,434	**6,479**
Cr6	0,124	0,437	0,281	0,239	0,406	0,268	1,755	**6,544**
							Eigenevalue, e, (Average of the sum/weight) :	**6,434**
							Consitancy Index, CI, [CI = (e-6)/(6-1)] :	**0,087**
							Consistancy Ratio, CR, [Consistant if CR = CI/RI6 < 0,10] :	**0,069**

CR < 0,10 means, Consistant

Figure 3: Initial, Normalized and Decision (Main) Matrix of the study.

Source: *Author, Used Macro Excel Calculations, Licenced Istanbul Ticaret University, 2024*

Fig. As seen in Figure 3, with the calculations made in the decision matrix, Consistency Ratio was calculated as 0.069. Since this value is below 0.10, the weights given by the Normalized table will be accepted as the final factor weights.

5. FINDINGS DISCUSSION AND PROPOSALS

Based on the tables given in Fig. 3, the weights in the last column of the table where the opinions obtained are normalized are the factor weights. The summary of this situation, that is, the result table, is given in Table 3.

Table 3: Outpust of the AHP Analysis and Factor Ranks

Code	Factors (Criteria)	Normalized Value (weights)	Rank
Cr1	(P)olitical	10% (0,103)	5
Cr2	(E)conomic	13% (0,130)	4
Cr3	(S)ocial	13% (0,134)	3
Cr4	(T)echnological	30% (0,298)	1
Cr5	(L)egal	7% (0,067)	6
Cr6	(E)nvironmental	27% (0,268)	2
	Total	**100% (1,000)**	

Source: *(Author, 2024)*

As Table 3 depicts, technology is the most important factor when defining the scope of the Atmosfear. It has 30% importance. The second important factor seems as environment with 27%. According to the study, these two factors should be used while defining the scope of atmosfear. This would imply that, uncanny valley, has a great affect on society. Atmosfear, not just for white or blue colored employees but also the whole society, creates a fear. Even though its perception is widely on environment, the technological affect has signed as more important.

There are some limitations of this study. The first thing is that the application style of the AHP Analysis. It depends of the phenomenological verbs and some can criticize it as subjective (Öz & Başar, 2021). So CRITIC analysis (Peyk & Yıldırım, 2023) may be advised for some other studies on the same topic.

On the other hand, the study has been taken under 5 different area as semi-structured interview with 5 phenomen. But all the participants are from Istanbul. So it may be held with different participants from different social and economic ecosystems.

The AHP analysis gives an important inpust for decision making process and selecting different alternatives for the sake of problem solving (Dönmez, 2022). The sectors may be accepted as alternatives and hence, the solution may express the main responsible institution or sector which should take care and solve the problem.

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