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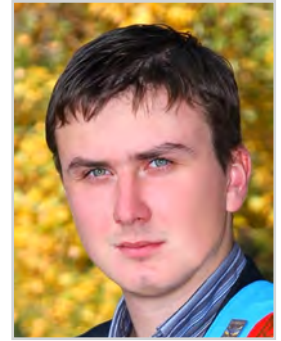
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Empirical model of congruence of mental space as a tool for the analysis of changes in international relations

Abstract. Recently, we have observed a lack of modern research on the question of the practical realisation of the mental space concept. This determines the topicality of the authors' research. The article studies the multiple ways of development of international economic and political relations, based on an empirical model of interaction of mental spaces. The authors of the article have developed an empirical model on the basis of a formula containing (in a codified form) an imbalance of mental constructs of the basic political and institutional structures and the environment. The concepts of «congruent interference» and «non-congruent interference» of mental constructs have been introduced. The mental space consists of a dynamic unity of mental constructs. The present research is based on the following empirical models: the political process (introduced by Donald Morrison and Hugh Stevenson) and the mass instability (developed by Ted Gurr). It has been shown that such an integrated approach makes a new concept topical, being the imbalance of the mental construct. It is calculated as the sum of four elements such as the level of realisation of individual values of the public environment as a result of the implementation of foreign policy, the level of realisation of basic political institutional structure values connected with the social environment, the emotional factor of the basic political institutional structures interacting with the social environment, and compensatory resources. The authors have presented prospective methods of influencing the mental space, given the current trends in the development of information and social networks, where the black swan effect is crucial in the information field. In terms of modern conditions, this effect is associated with the emergence of unforeseen actors capable of changing the public opinion. These are the public opinion leaders. The manipulation of social networks has been emphasised among the methods of influence. A method based on creating groups, public pages and channels for interpreting the events has been shown. It is also noted that the successful interaction of states is possible thanks to the congruent interference of their mental spaces. The reason for the deterioration of relations between them is the imbalance of mental constructs and spaces in general, resulting in the political instability. The given model can be successfully used for analysing and forecasting not only the development of international relations and making alterations to the foreign policy. It is obvious that the scope of its application can include as well the renewed trust to the candidates seeking elections, the managers at any level and the like. In fact, the quality of the social relations between the two subjects can be shown in accordance with the abovementioned model.

Keywords: Mental Space; Mental Construct; Interaction; Environment; Congruent Interference; Influence; Distrust; Black Swan; Network; Public Opinion; President

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Емпірична модель конгруентності ментального простору як інструмент аналізу та змін міжнародних відносин

Анотація. Авторами досліджено поліваріативність результатів розвитку міжнародних економічних і політичних відносин на основі емпіричної моделі. Вона відображає рівень дисбалансу ментального простору взаємодіючих суб'єктів. Дана модель побудована з урахуванням сучасних умов інформаційного суспільства. В якості базових були використані емпіричні моделі: політичного процесу (Д. Моррісона і Х. Стівенсона) та масової нестабільності (Т. Гарра). Аксиологічний компонент було обрано в якості базисного для концептуалізації конгруентної і неконгруентної інтерференції ментальних просторів політико-інституційних структур і середовища. Показано, що такий інтегрований підхід актуалізує нове поняття – розбалансування ментального конструкту. Він обчислюється як сума рівня реалізації цінностей індивідів суспільного середовища в результаті певної зовнішньої політики, рівня реалізації цінностей базисних політико-інституційних структур по відношенню до суспільного середовища, емоційної складової взаємодії політико-інституційних структур і середовища, а також компенсаційних ресурсів. В роботі проілюстровано практичне значення зазначеної емпіричної моделі на прикладі міжнародних відносин України та ЄС. Показано перспективні методи впливу на ментальний простір, де вирішальне значення має ефект «чорного лебедя» в інформаційному полі. Цей ефект у сучасних умовах пов'язаний із появою непередбачених акторів, здатних вплинути на зміну громадської думки. Доведено, що реалізація емпіричної моделі допоможе країнам змінювати ментальний простір, орієнтований на співпрацю.

Представлена модель може бути успішно використана для аналізу та прогнозування не тільки розвитку міжнародних відносин і внесення коректив у зовнішню політику. Очевидно, сфера її застосування може бути поширена на відновлення довіри до кандидатів на виборні посади, менеджерів будь-якого рівня тощо. Якість соціальних відносин між двома суб'єктами можливо показати у відповідності з вищенаведеною моделлю.

Ключові слова: ментальний простір; ментальний конструкт; взаємодія; середовище; конгруентна інтерференція; вплив; недовіра; чорний лебідь; мережа; суспільна думка; президент.

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Эмпирическая модель конгруэнтности ментального пространства как инструмент анализа и изменений международных отношений

Аннотация. Авторами исследована поливариативность результатов развития международных экономических и политических отношений на основе эмпирической модели. Она отражает уровень дисбаланса ментального пространства взаимодействующих субъектов. Данная модель построена с учетом современных условий информационного общества. В качестве базовых были использованы эмпирические модели: политического процесса (Д. Моррисона и Х. Стівенсона) и массовой нестабильности (Т. Гарра). Аксиологический компонент выбран в качестве базисного для концептуализации конгруэнтной и неконгруэнтной интерференции ментальных пространств политико-институциональных структур и среды. Показано, что такой интегрированный подход актуализирует новое понятие – разбалансировка ментального конструкта. Он вычисляется как сумма уровня реализации ценностей индивидов общественной среды в результате определенной внешней политики, уровня реализации ценностей базисных политико-институциональных структур по отношению к общественной среде, эмоциональной составляющей взаимодействия политико-институциональных структур и среды, а также компенсационных ресурсов. В работе проиллюстрировано практическое значение указанной эмпирической модели на примере международных отношений Украины и ЕС. Показаны перспективные методы воздействия на ментальное пространство, где решающее значение имеет эффект «черного лебедя» в информационном поле. Этот эффект в современных условиях связан с появлением непредвиденных актеров, способных повлиять на изменение общественного мнения. Доказано, что реализация эмпирической модели поможет странам менять ментальное пространство, ориентированное на сотрудничество.

Представленная модель может быть успешно использована для анализа и прогнозирования не только развития международных отношений и внесения корректив во внешнюю политику. Очевидно, сфера ее применения может быть распространена на восстановление доверия к кандидатам на выборные должности, менеджерам любого уровня и тому подобное. Качество социальных отношений между двумя субъектами можно показать в соответствии с вышеприведенной моделью.

Ключевые слова: ментальное пространство; ментальный конструкт; взаимодействие; среда, конгруэнтная интерференция; влияние; недоверие; черный лебедь; сеть; общественное мнение; президент.

1. Introduction

Nowadays, uncertainty and shocking consequences are peculiar features of global events. Politicians, having considerable resources at their disposal, do not get the desired results, and there appear new actors, whose appearance has hardly been predicted. For example, Donald Trump winning the president elections, or Volodymyr Zelenskyi becoming the President of Ukraine. The European Parliament electoral campaign witnessed 90 German famous YouTube celebrities calling to vote for those who pay close attention to the environmental problems. As a result, the Green party won. Therefore, we face a problem of how to formalise the consequences of the systemic influence of a certain extraordinary event, existing trends and the consistency of relations between the politicians at the international level. Understanding the international relations as a system of economic, political, social, cultural, military, legal and other ties between the states and nations leads to considering links which can shed light on the causes of positive and negative relations between certain political and regional entities in the context of these elements. The perspective of the assessment of the international relations, the impact of unforeseen events, motivates justifies the creation of a model including the mental characteristics of the interacting entities, as well as an explanation of its empirical use. Sorting out this problem will be useful for economists and political scientists involved in strategic planning and international relations forecasting which stipulates the topicality of the given article.

2. Brief Literature Review

The problem of the mental space of interacting subjects has been considered by modern researchers [1-2]. The most general approaches to understanding the mental space have been developed by G. Fauconnier (1987) [3] and G. Lakoff (1987) [4]. Yu. Harari (2015) wrote about the role of mental components in the global interaction of economic and political systems in his work «Sapiens: A Brief History of Humankind» [5]. Olena Bashkeieva (2015) explores the «mental revolutions» taking place under the influence of global social changes, including the economic and political ones [6]. The model of mental constructs and their interaction in the context of political instability was introduced by I. Ishchenko (2015) [7]. A separate aspect of the mental construct was explored by A. Evans and J. Krueger (2009) [8]. J. Shelton (2017) [9] explores the influence of mentality on the inefficient governance in Greece and the crisis phenomena in its economy. A. Bohigues (2018) [10] considers the axiological component of mental constructs in political process. O. Drozdov (2014) [11] has contributed greatly to the development of subject matter of mental maps of the world. N. Taleb offers his own concept for changing mental space, based on the current trends in the philosophy of chance and uncertainty (2010) [12]. O. Zernetska (2010) [13] investigates the functioning of the mass media in terms of a certain socio-political situation and the possibility of consolidation of the population. The empirical model of the political process having the axiological component, the gap between the elite and the environment, was created by D. Morrison and H. Stevenson [14]. Ted Gurr (1968) is the author of an empirical model of mass instability, in which the main element is the relative deprivation, being the difference between the desires and capabilities of the political participants [15]. Despite the sufficient number of theoretical studies, insufficient attention is paid to their practical implementation. This article is dedicated to filling this gap.

3. Purpose

Basing on the existing multiple ways of international economic and political relations development, the article is aimed at introducing a formal model of interaction of mental spaces of states and perspective methods of influencing their change.

4. Results

New actors, which have appeared on the world stage, have succeeded in creating their poles of influence. For example, the People's Republic of China has created a motivation for interaction in

Latin America meeting the interests of both parties. As a result, there has appeared a space created to expand, predominantly, economic cooperation [16]. In this regard, a question is raised as to how it is possible to grasp this motivational mechanism that promotes the binary interaction of states, which, on the one hand, claims to expand the country's influence, being on the other hand, subject to it, responding in a certain way [17]. This interaction induces certain mental frames. For example, such a mental frame as «national capitalism» has become increasingly popular in Ukraine, and it is explicit in the economic model of Austria [18].

Let us turn to such concepts as mental space and mental construct. G. Fauconnier and G. Lakoff considered the mental space as the medium for conceptualisation and thinking [3, 54; 4, 315]. Domestic researchers Yu. Kupchyshyna and Yu. Davydyuk emphasise that any set of operations or actions taking place in reality creates a projected hypothetical mental space comprising the generated knowledge in our thoughts [1, 165]. In other words, the mental space extends to the territory of the interacting states. However, each state has its own mental space being filled with the mental constructs of political institutions and the environment. In its turn, «a mental construct», being a scientific phenomenon laid down in terms of the inductive method and modelling, is defined as a system which syncretically includes such components as knowledge, worldview, ideology, sensitivity, myths, beliefs, values, cultural stereotypes, customs and etiquette, fantasies, hopes and phobia and semi-obsessive manifestations [7, 56]. As we can see, this scientific phenomenon also includes relatively stable elements difficult to be changed all at once, as well as those changing ones depending on the political, economic situation and other factors, including natural disasters, political conflicts, socio-demographic and migration processes, etc.

The most stable elements of the mental construct include values, constantly changing under the influence of social revolutions, resulting in radical changes in the political system. These changes start to produce new value benchmarks immediately through mass media, non-institutional entities and representatives of social networks. It is necessary to introduce such concepts as congruent interference and noncongruent interference of the mental constructs (or spaces as an integral system of mental constructs) to assess the overall influence of institutional and non-institutional entities on the political system. One of the scientific interference values is the cross-linguistic interaction as a result of using different languages. In fact, according to Gilles Fauconnier and Mark Turner (1994, 1998), it is the blended space. We give this term a value and use the interference to explain the level of cross-linguistic interaction of two interacting (political and economic) systems, as well as their environment. Hence, we consider their both positive and negative mutual perception. If we turn to the congruent interference of these elements with regard to the political and economic elites and the environment, we may observe a synergy effect. In such a case, the mental constructs of binarily interacting states contain such a component as «trust», which can be grasped through monitoring the legitimacy taken from sociological surveys [8]. Moreover, the congruent interference of these mental constructs demonstrates the possibility to realise their values through interaction with political and institutional structures. If the values of the political elite and the leaders, when interfering with the social environment, turn out to be noncongruent, then one should expect social instability [10, 60]. These considerations are also true for international relations. And now, we illustrate the above mentioned in a symbolic form. As a basis we chose the empirical models of instability and integration developed by Morrison and Stevenson, as well as the model of mass instability introduced by Gurr (1968) [14-15]. They take into account the divergence of values of the elite and of the environment, along with the relative deprivation as the difference between desires and opportunities. However, the scholars do not pay considerable attention to the emotional state of social groups and their mutual perception, given the unexpected short-term events in the information field peculiar to the present. Considering the mental space of a state, we have decided to focus on the interaction of mental constructs of basic political institutions and the political system. The estimate of the level of their imbalance in relation to the other state, in our opinion, can be illustrated by formula 1:

$$D = V_{s.e.} + V_{b.p.s.} + C_r, \quad (1)$$

where:

D stands for the imbalance of mental constructs of basic political institutional structures and the environment. Its result is the interference (if congruent, then «+»; if noncongruent, then «-») of the interaction of the political and economic system, and the environment.

Other symbols of the given dependence have the following meanings:

$V_{s.e.}$ is the level of realisation of public environment individual values as a result of a certain foreign policy. In our opinion, this indicator can be calculated on the grounds of two variables. The first is self-assessment ($S_{s.e.}$) regarding the issue of how the representatives of the social environment realise their own system of values as to the attitude towards another state which could be presented in points, for example, ranging from -10 to + 10. The second is how these individuals assess ($G_{b.p.s.}$) the basic political institutional structures in view of producing the system of values meeting their requirements as to another state. It can be measured at the same intervals.

The empirical confirmation whether the latter indicator is true can be found in the ratings of political leaders support relating to foreign policy towards this country. Then, $V_{s.e.} = S_{s.e.} + G_{b.p.s.}$. In our case, it will fluctuate in the range - 20 ÷ + 20 points.

$V_{b.p.s.}$ is the level of realization of basic political institutional structure values connected with the social environment. The measurement is identical to $V_{s.e.}$ calculations. That is, $V_{b.p.s.}$ include how the political elite ($S_{b.p.s.}$) self-assess the degree of realisation of their own value system in relation to another country in the course of its activity (measured in the range of 10 ÷ + 10 points) and how the political elite assess the degree of realisation of their own values in the social environment in relation to the same country ($G_{s.e.}$). The given assessment is ranging 10 ÷ + 10 points. According to this, it is reasonable that $V_{b.p.s.} = S_{b.p.s.} + G_{s.e.}$.

Thus, $V_{b.p.s.}$ is ranging - 20 ÷ + 20 points.

It is logical that the imbalance of mental constructs cannot be measured without considering the emotional component that we add to Formula 1. We believe it is reasonable to use the following formula 2:

$$Ir = EMP_{b.p.s. \rightarrow s.e.} + EMP_{s.e. \rightarrow b.p.s.}, \quad (2)$$

where:

Ir stands for an emotional component of the interaction of political and institutional structures and the environment. This element includes the possibility of changing the mental space due to the emergence of unexpected factors affecting the emotions, which we characterise as a black swan effect, which will be discussed further;

$EMP_{b.p.s. \rightarrow s.e.}$ is an emotional factor determining how the basic political institutional structures perceive the social environment, depending on its relation to another state (if it is positive perception, there is «+»; if it is negative perception, there is «-»). Range is - 10 ÷ + 10 points;

$EMP_{s.e. \rightarrow b.p.s.}$ is an emotional factor showing how the social environment perceive basic political institutional structures, given their foreign policy towards another state (if it is positive perception, there is «+»; if it is negative perception, there is «-»). Range is - 10 ÷ + 10 points.

C_r in Formula 1 stands for the size of compensatory resources (money, information resources, power resources, etc.) required to achieve a balance of mental constructs of the basic political and economic structures and the environment.

Consequently, finally we have the following formula 3:

$$D = V_{s.e.} + V_{b.p.s.} + Ir + C_r. \quad (3)$$

From the given correlation, it is understood that the congruent interferences results in $D > 0$, where D has the positive value and no compensatory resources are needed. Thus, $C_r = 0$. In other words, we have a situation when the majority of state residents provide their support for the president, the parliament and the government in the context of foreign policy aimed at interacting with another state. If there is a misbalance of mental constructs or, as we say noncongruent interference ($D < 0$), additional compensatory resources, including new political decisions and actions contributing to political stabilisation, are needed to maintain political and economic stability and security. Besides, while assessing the imbalance of the mental constructs which are peculiar to the basic political structures and the political system environment, it is mandatory, in our opinion, to take into account the psychological characteristics of generations. After all, each of the four currently living generations has its predominant system of values, interests, beliefs and stereotypes of behaviour [19]. However, speaking about the differences of generations, there is one value that is common to all generations being a romantic consumption [5, 144]. All these and other elements of the mental constitution affect the attitude towards another state,

its people and political leaders. Thus, Formula 3 should apply to each of the four generations. In addition, the international relations are also influenced by regional features, which also are to be taken into account in calculations [11].

Let us consider a particular example while using our model. The survey «Perception of problems and reforms» conducted from November 1 to December 4, 2018 showed that the list of top urgent problems in modern Ukraine does not include the European integration. Only 10% of respondents believe that the development in this direction is our first priority [21]. 54% of the Ukrainians polled are more concerned about the economic situation that needs to be improved immediately [21]. 8% of the polled consider that joining NATO is the most pressing issue, whereas one half of the respondents expressed their desire for the quickest corruption combat [21]. During another poll (2019), 57% of the Ukrainian respondents supported the European integration [22]. However, in addition to the political component, the economic component is equally important, based on the experience of Bulgaria and Romania, the European integration processes of the poorest EU countries. Moreover, according to the experts, the Ukrainian economy will not be able to export the goods to Europe, given the same time for negotiating the EU technical standards [23]. For our products to enter the European market freely it is necessary to get the foreign direct investment in the economy to modernise it. Yet, according to the statistics, the investments in 2018 decreased by 7.7% compared with 2017 [24]. Thus, we can estimate the percentage of those people who are upset by economic policy, while the former President of Ukraine Petro Poroshenko and the Government of Volodymyr Groysman considered the European integration and NATO membership to be a priority. This is evidenced by the decision of the Verkhovna Rada to introduce the Constitution amendments to fit into the European integration and NATO membership.

Formula $V_{s.e.} = S_{s.e.} + G_{b.p.s.}$ acquires a real content, where: $G_{b.p.s.} = -54 + 10 = -44\%$. This is the percentage of those people who categorically oppose the European integration as the main problem that political institutional structures should deal with. This indicator will affect the consonance of noncongruent interference of the mental space in terms of foreign policy. Another criterion is how the social environment representatives realise their own system of values ($S_{s.e.}$) as to another state is migration. After all, a person has to afford to have rest abroad. But such a romantic consumption cannot be borne by 69% of the country's inhabitants due to the financial problems [25]. Here we find the difference between those who can afford to have rest in Europe (31%) and those unable to do it (38%). Finally, we get $S_{s.e.} = -38\%$. To convert the percents into points (their interval + 10 points - 10 points for both $G_{b.p.s.}$ and for $S_{s.e.}$), we set a ratio when 10% equal to 1 point. Then $V_{s.e.} = -3.8 - 4.4 = -8.2$ (points). Consequently, the Ukrainians are dissatisfied not with the European integration course, but with the priority of putting this problem on the agenda. Moreover, more and more people go abroad, seeing no prospects in Ukraine for having salaries, commensurable to the communal and other social tariffs.

The next step is to assess the level of realisation of basic political institutional structure values connected with the social environment ($V_{b.p.s.}$). The self-assessments relating to how the political elite ($S_{b.p.s.}$) realise their own system of values in relation to the European Union in the course of their activities are as follows. The analysis of the speeches pronounced by Petro Poroshenko, the former President of Ukraine, Volodymyr Groysman, the Head of the Government, the decisions made by the Verkhovna Rada of Ukraine allows stating the complete absence of their self-critical publicity. Taking into account the signed association with the EU and obtaining a visa-free regime, it is worth considering the above-mentioned self-esteem $S_{b.p.s.} = +10$ points.

Another indicator $G_{s.e.}$ stands for the political elite assessing the degree of the realisation their values in the social environment in relation to the EU.

The fact is that the dissatisfaction with the actual situation in the country concerning the foreign relations with the European Union on the grounds of an ill-attempted domestic policy, its economic and humanitarian component, resulted in a high level of distrust to the senior state officials and the political structures. Thus, in March 2019, the level of distrust to the President was 69%, to the Government 74%, to the Verkhovna Rada of Ukraine 82%. It turned out that 66% of the citizens believe that our judicial system is unreliable [27]. Thus, the average rate of distrust is 78% - 7.8 (points), and therefore $G_{s.e.} = -7.8$ points. In other words, the particular result of work is the criterion for realising one's own values in the social environment, and it is expressed in the rating of trust / distrust of the society to the political leader. Here we have $V_{b.p.s.} = S_{b.p.s.} + G_{s.e.} = 10 - 7.8 = +2.2$ points.

Finally, it is necessary to consider the emotional component in Formula 2.

$Emp_{b.p.s. \rightarrow s.e.}$ is how the President, the Government, the Verkhovna Rada emotionally perceive the chance of our citizens crossing the EU borders, which causes the most positive emotions. Let's count $Emp_{b.p.s. \rightarrow s.e.} = +10$ points. However, we cannot claim that the social environment has the same attitude towards the main political institutional structures. The inability to use the EU visa-free regime due to financial reasons, together with distrust to political leaders, creates a negative synergy of the political and institutional structures emotional perception of the political environment. Since we have already established the difference between the percentage of people who can afford a trip to the EU and those who cannot (38%), they create increasing social entropy possible to blow out. Usually, the individuals do not want to undertake the responsibility for their failure of realising something, so they blame others, in this case, the state structures [9, 28]. Such individuals can implement their emotions in elections, referendums and polls, as well as in various forms of non-conventional behaviour (demonstrations, pickets, rallies, mass riots, etc.). The ratings of politicians have the emotions of the public environment materialised. According to our methodology, the average level of distrust towards the basic political institutional structures accounts for 78%. Consequently, it is not 38% of citizens who are more likely to negatively evaluate the politicians, their percentage equals to $38 \times 0.78 = 30\%$ (- 3 points). After defining $Emp_{s.e. \rightarrow b.p.s.}$ being equal to 3 points, we can calculate Ir (formula 2):

$$Ir = Emp_{b.p.s. \rightarrow s.e.} + Emp_{s.e. \rightarrow b.p.s.} = + 10 - 3 = + 7.0 \text{ points.}$$

Then D stands for the misbalance of the mental constructs of the basic political institutional structures and the environment in relation to the relationship between Ukraine and the EU. $D = - 8.2 + 2.2 + 7.0 + Cr = + 1.0 + Cr$. Since $D > 0$, then the compensatory resources are not required for the Ukrainians to achieve a positive attitude towards the European Union. However, given the maximum possible positive attitude towards Ukraine's foreign policy to the EU, which according to our methodology is 60 points, we can only state that it is only the initial stage of developing positive relations. We anticipate they will be developed as soon as the EU and Ukraine deepen cooperation on modernising our economy, making it more competitive.

Determining the current level of international relations, it is required to make the same calculations from the point of the second state in relation to the first one. Then we will have the opportunity to assess the mental space of the second state in the context of foreign policy and its focus on building a friendly, neutral or hostile relationship with the first mentioned state.

Finally, to make a conclusion on the prospects of international economic and political relations between the two states, it is necessary to take into account the main points of their foreign policy, comparing the mental spaces and answering such questions. Is the foreign policy of each country aimed at developing friendly relations with the opposite side (congruent interference)? Is it neutral (relatively congruent interference)? Or is the relationship between states hostile (non-congruent interference)? We have decided to keep on investigating into this matter.

Moreover, mental space management, which is increasingly popular in the world, can have a decisive influence and change a certain mental construct of the population. As we can see, the Cr in Formula 3 performs the task of compensating for the imbalance of mental constructs. Furthermore, it is practically impossible to live in an isolated mental space. So we pose a question whether it is possible to control the mental space, regardless of the type of political regime, with the social networks and uncontrollable government.

It should be noted that global changes in the mental space throughout the state are possible only when there is a powerful political force telling such a myth that everyone believes in. In addition, it is to be more appealing than the previous one [5, 148]. For example, one of the technologies offered by Nassim Taleb (2017) [12] is built on the black swan concept. The fact is that postmodern sees the information space demonopolised from the media. It is formed not only by mass media, but also by the public opinion of leaders and ordinary social network users. Accordingly, the agenda can be determined by the information field entities, which is difficult and often impossible, to be applied with the classical methods of mental space management [13, 30]. There are a number of reasons, including the existence of a significant number of entities, the ability to remain anonymous, dependence on political opponents, and so on.

Such conditions give a rise to volatility as one of the features of the mental space. It becomes much easier to create disturbance in it. Having developed information technologies, this can be

done by anyone. Accordingly, the role of uncertainty, providing the basis for Taleb's black swan concept, is growing. The author of the concept claims that it is impossible to predict the unexpected, so it is necessary to make bids. In particular, he offers to spend 15% of investments on such black swans. Most of them will be lost, because they will not become such swans. However, if you can «bet» on the black swan and win, the dividends (including political and economic ones) will be disproportionately advantageous and will cover those losses for the indicated 15%. In accordance with this concept, it is worth spending this percentage on such projects, which can be conventionally called informational, economic, informational and political. These are the projects having the potential for development, to have a significant impact on the mental space in future. First of all it concerns the public opinion leaders. The emergence of a new public opinion leader may become the Black Swan. Hypothetically, it can be called an information political and economic start-up. As the information system is non-linear, the appearance of a black swan can be identified with an attractor that taking a control over the reality [28, 109]. The other factor which should be considered is the type of attractor in the informative field, whether it is a simple one or an odd. It is the odd attractor that is able to cause perturbation, to change the public opinion. For example, in the run of the election campaign Volodymyr Zelenskyi, the sitting President of Ukraine, was active in the social networks communicating with the audience, so, along with the other reasons, it became decisive and created a huge gap between him and his opponent, Petro Poroshenko who used by mostly traditional methods. Undoubtedly, each opinion leader has a certain audience, to which he transmits his own interpretations of events or trends. The management of mental space is possible thanks to a network of such leaders who are somehow engaged and who interpret the information in a context favourable to a particular economic and political entity.

Another method is based on the principle which is similar to the previous one and in many ways intersects it. It is the creation of groups, public pages and channels for the interpretation of events. In fact, it is the same process, but the interpretation of events can often be impersonal. It should be noted that usually such impersonal groups do not form the opinions in general, but support them showing that to their own audience, having a more local impact. Therefore, such groups are created to interpret the information in the same way. It is important to create a significant number of such groups, as it is connected with such a phenomenon, which was called an «information bubble» [20].

5. Conclusions

By suggesting an empirical model of congruence of the state mental spaces, we arrive at the following conclusions:

1. The mental space of a state as a dynamic unity of the mental constructs of political and economic entities determines the level of motivation to interact with other states. The application of the model allows adjusting the foreign policy priorities and improving the interaction with other countries.
2. Mutually beneficial cooperation between the states on the basis of mutual motivation is achieved by the congruent interference of their mental spaces. Such a situation is observed when the values associated with the assessment of the state experience, the ideas about the ideal political regime, the attitude towards the economic policy and the prospects for states development and international cooperation between them have similar content.
3. The empirical part of the study showed that a nation-wide support of Ukraine's European course will grow primarily due to deepening the EU cooperation on modernising the Ukrainian economy. The current cooperation is disappointing. After all, the level of congruence of the mental space of the political institutional structures and the foreign policy public environment towards the EU is low (not exceeding 2% of the potentially possible), mainly failing to get direct foreign investments to modernize the Ukrainian economy.

Purposeful changes in the mental space of international economic and political relations are characterised by the methods mostly oriented to the black swan, leading as a rule, to the emergence of new leaders on the world stage. Today, interactive communication a tool for bifurcation, which, along with the traditional methods of influence through the mass media, increases the role of public opinion leaders in the social networks, those who able to unite a wide audience. Further investigations into this topic are to be focused on a political examination of the prospects for the interaction of states in a globalised world.

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