# MULTIDISCIPLINARY DOCTORAL SCHOOL

#### DOMAIN OF MANAGEMENT

# **DOCTORAL THESIS**

Modern management and public decision
in the context of unconventional challenges
specific to the security environment of the 21st century
ABSTRACT

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The theme of the research deals with the need to adapt public management to the current challenges of the security environment. The volatility of risks and threats to states and implicitly to society requires appropriate forms of management of emerging situations and unprecedented crises, apparently specific to the 21st century. The construction of security architecture changes has impacted the way decision makers relate to decision-making process.

The current research aims to address aspects related to modern management applied to new security challenges, analyzing by comparison the public decisions adopted regarding the same phenomenon through a transversal research in a global period of crisis.

Following the results of the research methods involved in the elaboration of the paper, a decision-making support mechanism for the decision-makers will be proposed.

**The research objectives** were fueled by the paradigm changes in the 21st century, which accelerated the need to connect managerial methods in accordance with contemporary reality.

The **general objective** of the paper is to identify, analyze and highlight the complex nature of managerial dimensions and demands in the progressive volatility of the 21st century.

## The **specific objectives** are:

- 1. Highlighting the role of the intelligence product in the decision-making act;
- 2. Relief of decisions, methods and measures applied by public decision-makers in distinct geographical areas, in response to the same emerging crisis (C-19 pandemic);
- 3. Analysis of public opinion regarding the public decisions applied during the period under investigation;
- 4. Highlighting the importance of better cooperation and coordination between the provider and the beneficiary of intelligence;
- 5. Development of a public decision-making mechanism to support decision-makers in optimizing decision-making alternatives.

After analyzing the studies in the field, the topic was approached by both Romanian and foreign researchers, the following aspects of interest being highlighted: the policy of the New Public Management, sustainability and resilience in the medium and long term, the consolidation of new strategies, the need to create new reforms crisis management and early warning.

In order to evaluate the level of interest given to New Public Management, **bibliometric analysis** was used as a research tool. Using as a sample the database of the Dimension<sup>1</sup> platform, with the help of the VOSviewer<sup>2</sup> software we identified the main concepts used by researchers in the field. They were represented by keywords and were grouped into clusters according to the year of publication, the analysis being carried out over a period of 5 years (2018-2022). The result revealed the existence of specialized articles, research and studies, starting from the query of the keywords "new public management" in the database. The obtained results were analyzed with the help of the analytical tool VOSviewer, the following concepts being highlighted: "democratic management", "public-private partnership", "economic mechanism", "social support", "organization of the public sector", "consolidation of a new strategy", "economic security", "public opinion", "information management", "public warning", "socio-economic development", "innovation management" etc.

A panoply of **scientific methods and techniques** was used in the elaboration of the paper. The research is **empirical**, the knowledge being obtained from the observation of sensitive reality, in this case the period January 2020 - June 2022 marked by the emergence of the SARS-CoV-2 virus, having parameters that are easy to observe, quantify and verify.

By means of **text analysis**, strategic documents were examined that constituted pillars in post-pandemic resilience and socio-economic recovery.

By means of the **comparative analysis**, the existence of identical or distinct elements from a set of analyzed states was determined, in order to develop hypotheses regarding the evolution of the analyzed phenomenon. The hypotheses resulting from the application of this method were developed and introduced in a sociological annex regarding the citizens' perception of the public decision adopted during the pandemic period.

Contextual analysis was used in studying the management of a specific problem, the spread of the pandemic and its integration into a general historical and institutional plan by means of a socio-economic assessment. Both for the questionnaire and for the cross-sectional analysis, the data analysis method was used. For example, the evolution of cases of infection with the SARS-CoV-2 virus in different states were quantified.

<sup>&</sup>lt;sup>1</sup> Dynamic platform that provides the most comprehensive collection of connected research data for complex analysis.

<sup>&</sup>lt;sup>2</sup> VOSviewer is software used in the creation of bibliometric networks for publications, articles, authors, citations, etc., made and provided for use by the Center for Science and Technology Studies, Leiden University, The Netherlands and available at https://www.vosviewer.com.

Content analysis was used as a quantitative method, through which media content from certain states was identified and objectively and systematically described regarding the impact of the spread of the SARS-CoV-2 virus in each of the analyzed nations, scoring the textual elements and evaluating the receiver's reactions.

The **historical method** was used to study the evolution of the management concept and the intelligence process. For the empirical study conducted in the form of a sociological survey, the data were processed using **standardized statistical methods to determine the validity of the hypotheses. Correlations** were made regarding the changing security environment and the need to connect them in public management forms.

Chapter IV was based on a **cross-sectional observational research study**. In the transversal research, public judgments and decisions, preventive measures and restrictions applied in the previously mentioned period, of a representative sample of decision-makers from seven states, chosen on the basis of predetermined criteria, were compared. In the analysis, multiple parameters of the crisis were used for comparison such as onset, evolution, prevention measures, peak of the crisis, resilience measures and economic recovery.

In the last chapter, the **prospective method** was used to coordinate heterogeneous visions in order to develop a bidirectional holistic mechanism, to support the decision-making act, from and towards the public decision-making factors. The proposed mechanism elaborates possible scenarios regarding the evolution of the complex reality in which we live.

The paper is structured in six chapters: it begins with conceptual notions, continues with the development of a transversal analysis and the application of a sociological investigation, and closes with the proposal of an alternative public decision-making mechanism to the current one.

The first chapter presents general considerations regarding the fundamental approaches in the development of modern management. The main classic management theories, which constituted the source of modern management, are highlighted. Also, the chapter includes detailing the current concepts with which the company operates: New Public Management, crisis management, strategic management, change management and innovation management.

The technological evolution, through the force of the global market in the online environment and the emergence of cybercrimes required the development of management principles<sup>3</sup>. Thus, in a habitat where man disputes his monopoly with technology, the harmonious

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<sup>&</sup>lt;sup>3</sup> Richard L.Daft, Dorothy Marcic. *Understanding management*. (Cengage Learning, 2016), 6.

management of the two categories is the subject of research in order to identify some frameworks of management that can be applied to various types and forms of work. In this context, management theories are more and more useful and perfected, whether we are talking about the classic theories, discovered centuries ago, or about the new ones that appeared through the lens of contemporary needs.

Management theories are ideas in the form of recommendations for management strategies, frameworks and tools that organizations can implement to help their workforce or internal culture. Leaders can use these theories as guidance to accomplish organizational goals or to motivate employees. They can also apply ideas from different theories rather than relying on a single management theory. Modern management is one of the many theories currently used by organizations around the world. This theory recognizes that today's organizations face rapid change and additional complexities, with technology serving as both a potential cause and solution to these factors.

Among the benefits of **modern management**, we list:

- 1. **Increases productivity**: Modern management uses mathematical and statistical methods to evaluate performance within an organization. Managers can use this data to understand employee behavior and develop solutions that maximize the potential of the workforce. For example, they can implement processes that make employees' tasks more efficient or offer training programs (trainings, workshops, team building) to improve their skills and to strengthen good relations between employees<sup>4</sup>.
- 2. **It supports decision-making**: by diversifying the informational paths and implicitly the received data (intelligence products) about the factors that must be examined. When managers know what and where to look, they can identify problems more quickly and proceed to find potential solutions. Incorporating mathematical techniques also allows them to use data to support those final solutions and decisions.
- 3. **Improves employee engagement**: as mentioned, modern management examines the motivation of employees to work beyond financial gain. Managers using this theory can identify and implement processes or procedures that take into account varied employee needs<sup>5</sup>. If

<sup>&</sup>lt;sup>4</sup> Richard L.Daft, Dorothy Marcic. *Understanding management*. (Cengage Learning, 2016), 8.

<sup>&</sup>lt;sup>5</sup> A current trend, related to the concerns of people in the century XXI towards a healthier life is for the organization/company to offer its employees gym or swimming pool memberships.

employees feel satisfied at work, this can lead to increased morale and increased engagement for organizational productivity.

- 4. **Promotes objectivity**: Modern management emphasizes the use of mathematical techniques. These techniques allow managers to make decisions based on data and evidence rather than personal opinions or feelings. They also allow testing of different options to assess which best supports the organization. As a result, managers can implement more effective solutions.
- 5. **Enables adaptability**: Modern management theory notes that today's organizations face a volatile, ever-changing environment. This theory emphasizes the importance of recognizing the influence of internal and external factors on the business and encourages managers to use the fusion of several techniques and approaches to achieve the intended result. For example, managers can use new technologies to streamline processes or perform statistical modeling when developing solutions.

There are several modern management approaches that leaders can implement within an organization. Managers may choose to use a fusion of these approaches to guide employees and support organizational goals<sup>6</sup>.

Once the fundamental framework of the management forms of situation is established, attention will be focused on their result. Thus, **chapter II** develops the concept of managerial decision, explaining decision-making mechanisms and methods, models and approaches practiced in the decision-making process. Also in this section of the paper, the categories of decisions (planning decisions; emergency decisions; management decisions; strategic decisions; risk decisions; tactical decisions; operational decisions; organizational decisions; administrative decisions; personal decisions; consensus; decisions with extended processes; decisions with limited processes; control decisions; intuitive decisions; certain or uncertain decisions; individual or collective decisions), emphasizing public and strategic decisions with a major impact on society. Although the research is focused on the decision in this chapter, considering that the *public decision* was centered, we consider it appropriate to mention some aspects about the usefulness of the *intelligence product* in the decision-making process, taking into account the fact that information is the raw material of a decision.

<sup>&</sup>lt;sup>6</sup> Abdelkarim Kitana, "Overview of the managerial thoughts and theories from the history: Classical management theory to modern management theory." *Indian Journal of Management Science* 6.1 (2016): 16.

**Chapter III** is perfectly described from the title, *Unconventional challenges and asymmetric threats of the global security environment*. It evokes the dilemmas facing nations in the 21st century, which add to pre-existing problems (poverty, natural disasters, precarious global health) new challenges such as climate change, ocean plastic pollution, overfishing, deforestation, access and gender inequality in education, air pollution, population migration crisis, etc.

Armed conflicts and geopolitical tensions, asymmetric threats materialized in the form of cyber-attacks, terrorism, information warfare, insurgency and hybrid warfare represent only a few pieces of the mosaic in the panoply of the 21st century. All of the above require the application of modern management, connected to these large-scale dysfunctions, in the face of which unprecedented efforts are being made for resilience and overcoming.

The volatility of the security environment is caused by the technological factor understood as a central vector in the development of society and positioning on the new geo-strategic coordinates.

To emphasize the relevance of modern management, connected to social reality, we will briefly present the **unconventional challenges** that appeared or were accentuated (e.g., Terrorism) in the third millennium. Under the concept of non-conventional challenges, we refer both to military conflicts, asymmetric threats, social and environmental dilemmas as well as events with major impact.

Regarding the **security and defense of states**, the threats of the escalation of **armed conflicts** can be found in several corners of the world: the War in Afghanistan (2001-present), the War in Iraq (2003-2011), the War in Syria (2011-present), the War in Yemen (2015-present), Libyan Civil War (2011-present), Nagorno-Karabakh War (2020), Russian "special military operation" against Ukraine 2021-present. These are just a few examples of the many conflicts that have occurred since 2000. Interstate wars are often complex, with multiple causes and a wide range of actors involved. They can have serious humanitarian consequences and disrupt regional stability and global peace<sup>7</sup>.

<sup>&</sup>lt;sup>7</sup> Heather A. Conley, "The 'Consequences' for Ukraine and the Transatlantic Partnership", *Center for Strategic & International Studies*, February 21, 2014. <a href="https://www.csis.org/analysis/%E2%80%9Cconsequences%E2%80%9D-ukraine-and-transatlantic-partnership">https://www.csis.org/analysis/%E2%80%9Cconsequences%E2%80%9D-ukraine-and-transatlantic-partnership</a>

Asymmetric threat<sup>8</sup> refers to a type of security challenge that is difficult to defend against because the danger comes from an unexpected source or with an unusual method of attack. Asymmetric threats are often characterized by a significant power imbalance between the attacker and the defender, with the attacker using unconventional tactics, such as cyber-attacks or terrorism, to exploit vulnerabilities in the defender's system. These types of threats are considered to be particularly dangerous because they can cause widespread damage despite the attacker's relatively limited resources.

Cyber-attacks, terrorism, information warfare, insurgency, hybrid warfare are just a few examples of today's asymmetric threat types. The nature of these threats is constantly evolving, so it is important that governments, organizations and citizens are vigilant and proactive in defending against them.

It is worth noting that all countries face a certain level of threat to their security, and Romania is no exception. Asymmetric threats can come from a variety of sources and can target any country, regardless of its size or level of development. It is important that Romania, like any other country, be vigilant and proactive in defending against such threats and maintain a strong security infrastructure to reduce its vulnerabilities to asymmetric threats.

The fourth chapter is dedicated to a transversal decisional analysis of the global health crisis from 2020-2022. The purpose of the transversal research is to analyze the public decisions adopted to increase resilience in the face of the crisis generated by the C-19 pandemic and to verify the reaction capacity of the state institutions following the adopted measures. The working hypothesis will be considered valid if the decisions were considered optimal by the citizens and will be verified through a sociological survey, using the questionnaire as a research tool.

The analysis will be carried out on the strategies applied to the health crisis, perceived as an asymmetric threat, as well as the first results of the measures implemented at the national level in seven different states.

As a **working scenario**, we used the period January 2020 - June 2022, marked by the global emergence of the SARS-CoV-2 virus, because it brought the first experience of a worldwide

<sup>&</sup>lt;sup>8</sup> Not all specialists in the field of International Relations agree with the existence of a so-called "asymmetric war" form of combat. The theory is based on the fact that military conflicts have always been asymmetric, with leaders targeting their opponents' vulnerabilities in order to maximize their advantages and turn each operation into a success. Countering asymmetries by using unconventional tactics dates back at least 2,000 years, when Sun Tzu said, "it is best to win without having to fight".

lockdown and therefore required increased capacity to react and impose some unprecedented mass decisions.

A factual logic would lead us to the hypothesis that all countries act in the same way according to WHO recommendations. This will more than likely be confirmed, but we will be able to analyze and capitalize on different types of decision-making behaviors.

The **transversal research on public decisions** adopted following the crisis generated by the C-19 pandemic analyzes the effects between the social and economic aspects of this phenomenon, manifested between January 2020 and June 2022 in different states. For the transversal study, we chose to analyze the data from seven states that approached different strategies, in order to highlight the cause-effect relationship applied to the national strategy adopted (through public decisions) - and the consequences, respectively the results of state-level infection with the SARS-CoV-virus 2. Thus, we applied the cross-sectional analysis to the following states:

- China
- ➤ USA
- Australia
- > Italy
- Sweden
- South Korea
- Romania

We decided to start the analysis with the Chinese state as the first model of the strategy applied for resilience in the face of the C-19 pandemic as it represents the epicenter of the pandemic, being the source of the multiplication of the virus (there are several theories on the actual appearance of the virus in this country). We included the USA in the analysis because they resulted in the most victims, about 88,000,000 infections until 01.06.2022 and over 1,000,000 people who died as a result of C-19 infection<sup>9</sup>. Australia represents a particular case due to its geographical, island-type settlement, which allowed the chosen strategy to be applied accurately. Italy was subjected to analysis because it is of interest from two aspects: it was the first country

<sup>&</sup>lt;sup>9</sup> Data was collected from <a href="https://www.worldometers.info/coronavirus/">https://www.worldometers.info/coronavirus/</a>. This is a reference website that provides real-time counters and statistics for various current affairs topics. It is owned and operated by a data company called Dadax.

devastated by mass deaths and it simultaneously had two types of strategies, the national one and a subsequent, regional one. Sweden was included in the cross-sectional study to highlight the effect of a very permissive strategy, compared to restrictive ones (such as the "0 Tolerance" strategy applied in China). South Korea has a special place in the analysis, being the state with the best strategy. This statement is supported by the low death tolls – about 24,000 in a population of 51,355,561. Romania represents the situation mirroring the measures adopted in Western Europe, a fact that should not be categorized as imitation, but rather the natural consequence of the fact that it is an integrated part of the European Community.

Visionaries see the coronavirus outbreak as a global opportunity to apply a strong crisis management mechanism. From this perspective, we will treat the period as a test of the consolidation of the European community and the resilience global population. In the context of panic and possible (very likely) negative economic consequences, manifested by undermining investment and consumerism, slowing down development or even recession, solidarity will be clearly defined by regulating the self-protection of states.

In the last 50 years, the development of these types of coronaviruses, which instigate the emergence of numerous human and animal diseases, has increased. There is a high probability that such coronaviruses will continue to emerge, evolve and trigger outbreaks, both in humans and animals; this likelihood is determined by the ability of these viruses to transfer, mutate, and cause infection in both humans and animals<sup>10</sup>.

The current pandemic can be considered the biggest global threat after the Second World War to public health, people's livelihoods and the economies of states. The pandemic managed to reverse the processes of globalization<sup>11</sup>. The social and economic disorder unleashed by this pandemic is unprecedented. According to the WHO, tens of millions of people are at risk of plunging into severe poverty<sup>12</sup>.

<sup>10</sup> Siddiqui Sazada, Alhamdi Heba, Waheeb Saeed, Alghamdi Huda Ahmed, "Recent Chronology of COVID-19 Pandemic" Frontiers in Public Health Vol. 10 (May 4, 2022): 13.

Pandemic" Frontiers in Public Health Vol. 10 (May 4, 2022): 1 https://doi.org/10.3389/fpubh.2022.778037/ftull

<sup>&</sup>lt;sup>11</sup> Tharanga Thoradeniya, Saroj Jayasinghe, "COVID-19 and future pandemics: a global systems approach and relevance to SDGs" *Global Health 17* (May 24, 2021): 59. <a href="https://link.springer.com/article/10.1186/s12992-021-00711-6">https://link.springer.com/article/10.1186/s12992-021-00711-6</a>

<sup>&</sup>lt;sup>12</sup> Siddiqui Sazada, Alhamdi Heba, Waheeb Saeed, Alghamdi Huda Ahmed, "Recent Chronology of COVID-19 Pandemic", *Frontiers in Public Health* Vol. 10 (May 4, 2022): 10. <a href="https://doi.org/10.3389/fpubh.2022.778037">https://doi.org/10.3389/fpubh.2022.778037</a> https://www.frontiersin.org/articles/10.3389/fpubh.2022.778037/full

Following the transversal study, of the observational research type, focused on the analysis of data from seven distinct states (the sample population), collected between January 2020 and June 2022, the following conclusions were drawn:

- ➤ Public decisions regarding the C-19 pandemic crisis were heterogeneous, both between different nationalities and within the same state (the case of Italy);
- ➤ The strategies chosen guided the spread of the virus and dictated the number of infections and deaths:
- The isolated geographical area can be a positive aspect in countering the spread of a virus (example: Australia, South Korea);
- ➤ The similar history and the lessons learned from this phenomenon constitute a significant contribution of know-how to the decision-makers (e.g., South Korea);
- Advanced technology means economy. For example, South Korea checks its infected people through the Auto-Quarantine Safety Protection application; Also, large-scale telemedicine applied in some regions of Italy has significantly reduced the saturation of hospital beds;
- ➤ Public-private partnership can significantly help reduce costs with the expansion or creation of new medical facilities (South Korea);
- The activation of all specialists in a field (students, pensioners, volunteers) supported in Italy the urgent need to supplement and replace medical personnel when they were in quarantine/isolation;
- Relaxation of measures even during outbreaks does not automatically mean strengthening the population to the virus (Sweden);
  - Mass and periodic testing can be a solution to control and prevent the spread of the virus.

From the perspective of testing, Italy (3,778,772 per 1 million people), Australia (2,815,488 per 1 million people) and the United States (3,120,463 per 1 million people) occupy the first positions in this ranking, also being states with a very high degree of vaccination at national level<sup>13</sup>. Regarding the percentage of the vaccinated population, Romania is the only country, among those analyzed, with a vaccination rate below 50% until the research date,  $07/01/2022^{14}$ .

<sup>&</sup>lt;sup>13</sup> https://ourworldindata.org/coronavirus

<sup>&</sup>lt;sup>14</sup> Edouard Mathieu, Hannah Ritchie, Lucas Rodés-Guirao, Cameron Appel, Charlie Giattino, Joe Hasell, Bobbie Macdonald, Saloni Dattani, Diana Beltekian, Esteban Ortiz-Ospina, Max Roser, "Coronavirus Pandemic (COVID-19)". Publicat online pe site-ul OurWorldInData.org. (2020). <a href="https://ourworldindata.org/coronavirus-testing">https://ourworldindata.org/coronavirus-testing</a>

The states chosen for analysis applied different strategies, adapted (or not) to the geographical area and national ideology, policies that did not always lead to the expected results, which is why they were adjusted by the decision-makers<sup>15</sup>.

As a final conclusion, we emphasize that the C-19 pandemic constituted a new global state of affairs, and every decision or action had a long-term impact, which implicitly led to reluctance and fear of assuming decision-making factors.

**Chapter V** includes a sociological survey through which citizens' perception of public decisions adopted during the pandemic was collected, examining several perspectives. Based on the research objectives, the following hypotheses were subjected to analysis in order to validate or invalidate them:

Hypothesis 1: COVID-19 has significantly affected the following sectors: public health, education and unemployment.

Hypothesis 2: The degree of satisfaction with the decisions and measures adopted in the fight against the COVID-19 pandemic by the Government and the Parliament of the Romanian State is low.

Hypothesis 3: Public decisions adopted during the COVID-19 pandemic were perceived as having a low degree of opportunity and proportionality in relation to the social danger produced.

Hypothesis 4: The decisions adopted in the public health segment were not appropriate to the social reality, the degree of satisfaction regarding their implementation being low.

Hypothesis 5: The information transmitted by the authorities - through OSINT - was useful in order to understand the pandemic situation.

Hypothesis 6: The main sources of information during the pandemic crisis were the data provided by journalists and bloggers/internet users.

Hypothesis 7: It was necessary to have a periodic flow of information, provided by the intelligence services, to give citizens confidence in public decisions.

Hypothesis 8: The degree of appreciation for the information activities carried out by state institutions is low.

<sup>&</sup>lt;sup>15</sup> Emeline Han, Melisa Mei Jin Tan, Eva Turk, Devi Sridhar, Gabriel M Leung, Kenji Shibuya, Nima Asgari, Juhwan Oh, Alberto L García-Basteiro, "Lessons learnt from easing COVID-19 restrictions: an analysis of countries and regions in Asia Pacific and Europe" *Lancet HEALTH POLICY* vol. 396, nr. 10261 (*London, England*, November 7, 2020): 1525-1534. https://doi.org/10.1016/s0140-6736(20)32007-9

Hypothesis 9: The degree of trust in the decisions adopted by the state would increase by 50% if the citizens were aware of the reasons underlying their preparation.

Hypothesis 10: The intelligence provider-beneficiary relationship optimizes the public decisionmaking process.

Hypothesis 11: The transparency of the intelligence products delivered to the legal beneficiaries increases citizens' confidence in the public decision<sup>16</sup>.

Based on the empirical research, the collected data were analyzed using standardized statistical methods to determine the validity of the hypotheses.

For the purpose of the research, the sociological survey was used, with the questionnaire as the primary tool, applied in the online environment, between 11.07 - 26.08.2022. The analyzed data was collected from 404 responses that were checked so that there were no duplicate entries or irrelevant responses (respondents who gave the same answer to all questions). Checking for outliers was done by calculating the standard deviation of the numerical responses, and responses with zero standard deviation were removed from the analysis. Following dataset validation, 22 entries were removed.

The questionnaire aimed at citizens' perception of modern management, applied through public decisions adopted by different decision-makers within the same phenomenon (C-19 pandemic). Called Questionnaire on public decisions adopted during the Covid-19 pandemic, the survey was organized in four parts:

- In the first part, socio-demographic information was collected (age, sex, place of origin, country of residence, professional situation, level of education, etc.);
- In the second part, the respondents' opinion was evaluated regarding the degree of damage due to the C-19 pandemic (phenomenon found in all the countries where the respondents came from);
- The third part includes questions related to respondents' satisfaction with the decisions and measures adopted in the fight against the pandemic, of several institutions and public entities. These questions included several variables: the necessity, proportionality and opportunity of the measures, the implementation of sanctions, types of strategies of public decision-makers, etc.
- The fourth part focused on the information disseminated through OSINT and aimed at the degree of understanding, the sources and the information activity in a bivalent sense: from the

<sup>&</sup>lt;sup>16</sup> This hypothesis was separated into H11 and H12 to obtain the results accurately.

state to the citizens, but also from the competent services to the state, the transparency of the process and the degree of credibility, leaving the respondent the opportunity to freely express his opinion on the analyzed subject at the end of the questionnaire.

Non-parametric tests were used to test the hypotheses because the analyzed variables are measured on an ordinal scale. In the case of hypotheses where two groups were compared, the Mann-Whitney test was used, and in the case of hypotheses where there are three or more groups, the Kruskal Wallis test was used <sup>17</sup>. As both tests are non-parametric, they make no assumptions about the distributions of the variables, and therefore there is no need to check the normality of the data. The tests compare mean ranks instead of arithmetic means of variables and are much more robust to outliers than parametric tests. The similarity between the distributions of each analyzed group is done by visual analysis of the box-plot diagram of the groups. In the case of tests with statistically significant results, a Bonferroni <sup>18</sup> correction for multiple groups was applied.

For tests involving nominal or ordinal variables, the Chi-square test for independence was used  $^{19}$ . This test compares the observed to the expected frequencies (which would be observed if there was no association between the two variables). If the difference between the frequencies is significant, then the test result is significant. If the percentage of cells with an expected frequency of less than 5 is greater than 20%, then the likelihood ratio is interpreted instead of the Chi-square value, which is more conservative in assumptions and provides greater robustness of the results. If the test has a significant result, the effect size is determined by interpreting Cramer's V value  $^{20}$ . This is considered weak if it has a value less than 0.3, medium for 0.5 and strong for values greater than 0.5. A significance level of  $\alpha$ =0.05 was used for all statistical tests used.

The analysis was done using the SPSS Statistics software package version 26 (SPSS Statistics - Overview, 2022). Microsoft Excel 365 was used for descriptive analysis and presentation of results. The research study undertaken in this paper was made based on a system of hypotheses that were subject to validation/invalidation, following the analysis of the information presented.

<sup>&</sup>lt;sup>17</sup> William H. Kruskal; W. Allen Wallis, "Use of ranks in one-criterion variance analysis", *Journal of the American Statistical Association*, 47 (260), December, 1952: 583-621. <a href="http://links.jstor.org/sici?sici=0162-1459%28195212%2947%3A260%3C583%3AUORIOV%3E2.0.CO%3B2-A">http://links.jstor.org/sici?sici=0162-1459%28195212%2947%3A260%3C583%3AUORIOV%3E2.0.CO%3B2-A</a>

<sup>&</sup>lt;sup>18</sup> Matthew A. Napierala, "What is the Bonferroni correction?" AAOS Now (April, 2012): 40-41.

<sup>&</sup>lt;sup>19</sup> David S. Moore, *Chi-Square Tests*. Purdue University Lafayette Indiana Department of Statistics (1976): 1-4.

<sup>&</sup>lt;sup>20</sup> Jacob Cohen, *Statistical power analysis for the behavioral sciences* (New York: Psychology Press, 1988), 5-9. https://doi.org/10.4324/9780203771587

Following the interpretation of the results of the applied questionnaire, the following conclusions were drawn:

**Hypothesis 1**, *COVID-19 significantly affected the following sectors: public health, education and unemployment*, was confirmed in the empirical study by the large number of respondents who placed the 3 categories in the top of the most affected sectors. Out of the total of 382 respondents, 74.34% were negatively affected by the pandemic as follows: 72 people were affected to a very large extent and 212 people were affected to a large extent. The general perception in the study was that health (333 respondents – 87.17%) and unemployment (331 respondents – 86.64%) were affected by the pandemic to the greatest extent; regarding education, the weight is more moderate, 50.52% of respondents were affected to a great extent during the analyzed period and 46.85% were affected to some extent. After analyzing a graph that contains the most relevant socio-demographic information (age, education, sex), it appears that the most positively affected category is that formed by young men with a higher degree of education. The majority of those adversely affected are women and men of all ages and educational levels.

**Hypothesis 2:** The degree of satisfaction with the decisions and measures adopted in the fight against the COVID-19 pandemic by the Government and the Parliament of the Romanian State is low.

Given the fact that 80.1% of the respondents declared themselves dissatisfied with the decisions adopted by the Romanian Parliament and in a similar percentage, 79.5% declared themselves dissatisfied with the decisions made by the Romanian Government, we consider that the degree of satisfaction regarding the decisions and measures adopted by the Government and Parliament of the Romanian State in the fight against the COVID-19 pandemic is low, which confirms the supported hypothesis. Depending on the education categories, some differences were observed with reference to the degree of satisfaction regarding the decisions and measures adopted by the Government and the Parliament of the Romanian State.

**Hypothesis 3:** Public decisions adopted during the COVID-19 pandemic were perceived as having a low degree of opportunity and proportionality in relation to the social danger produced.

Following the analysis carried out, it was found that the majority of respondents believe that the measures adopted had a low degree of opportunity and that they were not proportional to the social danger to which the citizens were exposed, the greatest degree of dissatisfaction with the opportunity of the decisions adopted in the context of the pandemic being reflected by the perceptions on the (criminal and financial) sanctions applied. Following these recorded responses, the mentioned hypothesis is confirmed.

**Hypothesis 4 -** The decisions adopted in the public health segment were not appropriate to social reality, the degree of satisfaction regarding their implementation being low - was confirmed as the majority of respondents (over 70%) considered that the decisions adopted in the public health segment at the level of the country of residence were to a small extent adequate regarding: the medical treatments administered, the access to the drugs necessary to treat various forms of infections, as well as the number of vaccines purchased by the state.

**Hypothesis 5:** The information transmitted by the authorities - through OSINT - was useful in order to understand the pandemic situation.

We could categorize this hypothesis as confirmed because in a very large proportion, 80%, the respondents considered useful, in order to understand the pandemic situation, the information transmitted by the authorities through open sources. But a thorough analysis of this hypothesis shows us that the degree of satisfaction is inversely proportional to the age of the respondents. Thus, significantly more people in the 26-41 years category (young people with access to multiple information channels) were not satisfied with the quality and quantity of the information received, while significantly more people in the 58-76 years category considered the information received enough.

Differences were also noticed at the educational level. Significantly more people with a high school and doctoral education were dissatisfied with the information they received from authorities through open sources, while more people with a post-secondary and undergraduate education found the information relevant and sufficient.

**Hypothesis 6:** The main sources of information during the pandemic crisis were the data provided by journalists and Internet users.

According to the results of the study, the main information channels used during the pandemic were social networks (42%) and mass media (28%). Only 19% of the respondents used the official websites of the competent authorities as their main information channels.

The conclusion resulting from this hypothesis is that both the state institutions and the services empowered to inform them should have a consolidated relationship in front of the citizens. Highlighting to the citizens a good cooperation at the level of the state institutions, of the provider

- beneficiary type of information, would have strengthened the level of trust in the information transmitted by the state authorities, transforming them into the main channel of information used during the pandemic. This equation can be applied to any non-conventional challenges arising amid the volatility of the security environment, in which the citizens of a state also participate and must be constantly updated on situational developments and new recommendations.

**Hypothesis 7** concerned the importance of the existence of a periodic flow of information, provided by the intelligence services to give citizens confidence in public decisions. Among the respondents, 84% stated that they would have more confidence in the decisions of public decision-makers if they were consolidated on data collected, analyzed and processed by the services specially empowered in this regard (according to the intelligence cycle). Depending on the level of education, we find that significantly more people with high school education answered "I don't know" and significantly more people with post-secondary education answered "Yes".

The results reinforce the conclusion drawn in Hypothesis 6, that is, a cooperative relationship between state institutions, more visible to the public, would implicitly lead to the credibility of the decisions adopted at the state level, both central and local.

**Hypothesis 8** The degree of appreciation for the information activities carried out by state institutions is low, it was disproved as the majority of respondents (46%) gave a neutral answer (qualifying 4). It was checked whether there were differences between the different groups of the socio-demographic categories (age, sex, background and education) and no significant differences were found. Thus, we can conclude that regardless of the socio-demographic categories to which the respondents belonged, they have a" certain" (qualifications 3, 4 and 5 on a scale from 1 to 7) degree of trust in the information activities carried out by the institutions of the Romanian state.

**Hypothesis 9** - The degree of confidence in the decisions adopted by the state would increase by 50% if the citizens were aware of the reasons underlying their preparation - was confirmed by 87.6% of the respondents, the negative answers (5.7%) were in a similar proportion to the answers of the type "I don't know" (5.4%).

From H6, H7 and H9 we can conclude that the degree of confidence in the measures adopted by public decision-makers would increase substantially if the decision-making factors would reveal their foundation, presenting them as the result of the management team following the intelligence analysis process. As a result, those who believe there was a flow of communication have more confidence in state decisions. Also, significantly more of those who do not believe there

was a flow of communication answered "I don't know" to the question "You would have more confidence in the decisions taken by the state if it regularly provided the reasons behind the basis of their preparation?".

For **hypothesis 10** The intelligence provider-beneficiary relationship optimizes the public decision-making process, 82.7% of respondents answered affirmatively and 17.2% disagreed with the statement. Of the respondents, significantly more people with a high school and bachelor's degree answered "No" and significantly more people with a bachelor's degree answered "Yes".

Making a correlation between H10 and H4, it can be concluded that a timely, pragmatic and efficient decision (by the way, specific to Modern Management) must be not only legally and scientifically grounded, but also anchored in social reality, being based on intelligence reports qualitative, constantly provided, which would also facilitate the rational decision-making between the decisional alternatives.

**Hypothesis 11**, The transparency of the intelligence products delivered to the legal beneficiaries increases citizens' confidence in the public decision is confirmed by the fact that the result obtained is predominantly affirmative (63.1% of respondents). It is interesting that the people (20.6%) who answered "I don't know" represent a higher percentage than those (16.1%) who answered negatively. With reference to the transparency of the intelligence products delivered to the public beneficiaries, 84.55% respondents believe that the information reports to the legal beneficiaries should be exposed, at least annually.

This hypothesis highlighted some inhomogeneous aspects between different groups of the analyzed socio-demographic categories. Thus, significantly more people from the urban environment answered with "No", while significantly more people from the rural environment answered with "Yes". Also, significantly more people in the 26–41-year-old category answered "I don't know" while significantly more people in the 58–76-year-old category answered "Yes". Significantly more people with high school and master's degrees answered "No" and significantly more people with bachelor's and post-secondary education answered "Yes". It was applied again a Chi^2 test and found that significantly more respondents who would trust state decisions consider the information process transparent. Significantly fewer of those who have confidence answered "I don't know" to the question "Do you consider the process of informing beneficiaries transparent?".

The general conclusion following the applied empirical study is that citizens' confidence in the decision-making process would increase substantially, if it were transparent and publicly exposed from the perspective of the intelligence reports that substantiate the adopted decisions.

**Chapter VI** continues the thread of the public decision-making process defined, described, analyzed and questioned in the previous chapters and following the results of the research, it **proposes a modern decision-making mechanism** based on the provisions of citizens' safety.

Starting from the results of the research methods used, a new decision-making model is developed, which brings together theoretical aspects from both the intelligence cycle and the target-centered approach, developing and amplifying them in accordance with the current requirements of the security environment. Taking into account the fact that intelligence supports the decision-making factors in choosing the best alternative, we believe that the beneficiary should take into account the intelligence product received. Communication in both directions (provider - beneficiary of intelligence) will make the process more efficient, reduce or cover the gaps, and in case of a syncope, the intelligence cycle can be resumed until the resulting product can be connected to the needs of the beneficiary applied to the existential reality.

The scoring contribution of the mechanism consists in focusing on the result. If the Target Centric Approach had the information target as its center and the intelligence cycle was completed too soon (in our opinion), what we propose is the implementation of a mechanism to support the decision-making process, especially the public one, through which we coordinate the improvement efforts of both the provider as well as the beneficiary/consumer of intelligence in order to change the deficient or defective situation.

The proposed mechanism is based on the new government policies of the New Public Management and works for the benefit of the citizens, balancing the balance of the will of the public decision-makers with solving the pressing problems of society.

In the context of the implementation of the New Public Management, we believe that the new reforms should target each stage in the decision-making process, which also includes receiving the information that is the basis of public decisions. After quantifying the sources of information (see Chapter II), we present the informational process through which the raw data reaches the beneficiary in the form of useful (actionable) information for the adoption of public decisions. Thus, the process is circular in nature, however, the stages can be repeated whenever it

is considered necessary. The process of collecting, processing, analyzing and disseminating intelligence is called the *intelligence cycle*<sup>21</sup>. The cycle involves the development of unrefined data (raw data) into processed information to support the equation of alternatives in the decision-making process.

The intelligence cycle is the process by which we investigate, analyze and decide to act in accordance with the world around us<sup>22</sup>. The term intelligence conceptualizes the process by which data and information can be given valuable meanings and whose development will benefit an organization or even a nation<sup>23</sup>.

We agree with Lowenthal's proposal<sup>24</sup> to add to the traditional version of the intelligence cycle both "dissemination and consumption"<sup>25</sup> and the provision of feedback, in a mandatory manner. Regarding feedback, several authors opine that it has an undeniable utility, being the bridge between the needs or expectations of the beneficiaries and the perspective, capabilities and social reality revealed by the provider. If regarding feedback things seem to be quite clear, regarding the consumption of information the discussion seems to be longer.

We believe that the effort should be completed by adopting public measures or a decision consistent with the information received. It is not necessarily about an obligation (as Lowenthal, p. 62) believes, but rather about completing the mechanism of public decision-making. Taking into account the fact that intelligence supports the decision-making factors in choosing the best alternative, we believe that the beneficiary should take into account the intelligence product received. If you do not agree (totally or partially) with it, there is the possibility to express your response to the received communication through feedback. Communication will make the process more efficient, reduce or cover the gaps, and in case of a syncope the intelligence cycle can be resumed until the resulting product can be connected to the needs of the beneficiary applied to the existential reality (Figure 1).

<sup>&</sup>lt;sup>21</sup> The concept of "intelligence" has English origin and multiple connotations, including: "the ability to think and learn; information and collection of secret information; secret intelligence gatherers (agents or spies); intelligent spirit (in the sense of the entity capable of rational thought)" - Tiberiu Tănase, "Modern Intelligence, from the term and concept to the activity of information for national security", Intelligence Magazine, July 25, 2009.

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<sup>&</sup>lt;sup>22</sup> Nicholas Krohley, "The intelligence cycle is broken. Here's how to fix it.", *Modern War Institute at West Point*, Octombre 24, 2017. <a href="https://mwi.usma.edu/intelligence-cycle-broken-heres-fix/">https://mwi.usma.edu/intelligence-cycle-broken-heres-fix/</a>

<sup>&</sup>lt;sup>23</sup> Clifton L. Smith, David J. Brooks, Security Science. The Theory and Practice of Security, 177-198.

<sup>&</sup>lt;sup>24</sup> Mark M. Lowenthal, *Intelligence: From Secrets to Policy* (CQ Press, 2006), 55.

<sup>&</sup>lt;sup>25</sup> Ibidem, 62.

The beneficiary validates the received information product

The usefulness or novelty is confirmed through feedback and measures are applied/decisions are made in accordance with the new data of the problem. The effects of the public decision will be evaluated (optionally) jointly by the beneficiary and the provider to strengthen cooperation and understand the problematic perspective in the same way.

The beneficiary invalidates the received information product

•The product is invalidated through feedback on the possibility of using the information, as the beneficiary considers it known, outdated, unusable or simply believes that it does not meet his current needs. Therefore, the intelligence provider can restart the cycle either from the first stage, or from where it considers it possible to modify or shape the product so that it meets the needs of the beneficiary.

Figure 1. Proposed obligation to provide an answer regarding the information product intended to support the decision-making process

Source: Author's conception

The informational explosion is exactly what pushes us to look for reliable channels for receiving quality intelligence. Analytical instrumental support should be the main pillar in the adoption of public decisions. The intelligence cycle deals with a circular sequence of stages in order to transform simple data into analytical intelligence products.

There are intelligence processes and products in both the public and private domains. In order to make the process more efficient, a reverse connection or at least a reverse connection is imperative from the beneficiary through feedback to the intelligence provider entity considering that the feedback is the binder that regulates the communication.

The public decision-making mechanism (but not only) could be improved by merging the elements of the traditional information-reception cycle with current elements of the TCA system and supplementing the attributions of the involved parties related to the process. Thus, we propose

a complex mechanism in which the completion of the intelligence cycle is not exactly the end of the process. If we accept the fact that the intelligence product supports the decision-makers for the choice of the best alternative, then the realization of the process should involve the integration of the information product in the decision-making act (whether it is a public decision, a decision or an implemented measure).

In the public domain, the new mechanism would require a series of legislative changes. First of all, it involves changing the prerogatives of decision-makers by supplementing their obligations, taking into account the fact that the recipient of intelligence should read the analytical product received, then find a solution in order to remedy the dysfunctions - if we are talking about vulnerabilities and risks or to counter threats to state welfare address.

The scoring contribution of the mechanism consists in focusing on the result. If the Target Centric Approach had the information target as its center and the intelligence cycle was completed too soon (in our opinion), what we propose is the implementation of a mechanism to support the decision-making process, especially public, through which we coordinate the improvement efforts of both the supplier as well as of the beneficiary/consumer of information processed in order to change the deficient or defective situation.

The involvement of specialized intelligence services in the decision-making process could reduce the risk of politicization, supporting decision-makers in adopting better conclusions. Independence and objectivity are central to the process. Along with these, we emphasize the relevance of the information transmitted. The modern generation of decision-makers must be open to newness: more access, more transparency, more collaboration. We believe that there is a need for a collaboration mechanism in which the intelligence services have input in supporting the decision-making process, offering qualitative intelligence, based on the empiricism of three quarters of a century, in which they analyzed the way people think, act and collaborate.

The proposed mechanism is based on the new government policies of the New Public Management and works for the benefit of the citizens, balancing the balance of the will of the public decision-makers with solving the pressing problems of society.

Within the proposed decision-making mechanism, the first stage can be launched both by the information consumer by sending informational requirements to the competent institutions, in order to obtain support in choosing the best alternative, or vice versa, by the institutions with attributions in the field, self-notifying the appearance of vulnerabilities, risks or threats to the safety of citizens.

The second stage involves the development of the information product, defined above as an intelligence product. We support the same circular form that allows returning to any of the stages and restarting the process in the same direction, in case the product does not meet the needs of the beneficiary and it will be necessary to reiterate the information flow. This stage includes as subdivisions that fall to the intelligence provider: planning and directing the information gathering activity, data collection, analysis, processing and dissemination of the product to the decision maker.

The process therefore begins with planning (creating brainstorming or other strategy) and directing the assigned human resource to carry out the next phase: data collection. The collected data will be processed and exploited, passing through the analysis and production stage, to be transformed into an intelligence product. It will be disseminated to the legal beneficiary to be integrated into the ongoing decision-making process.

Once we reach the legal beneficiary, we enter the third stage of the process where we focus on the information beneficiary. It will have the obligation to send a feedback to the supplier with one of the following options: validate the product, if it considers that it meets the necessary quality to be a support when adopting a decision/decision/measures (it follows that the intelligence product is implicitly integrated into the act decision-making) or invalidates the usefulness of the product, if it considers it lacking novelty or accuracy or does not meet other specifications necessary for the beneficiary to complete the decision-making process.

In case of invalidation of the product, the information cycle is resumed in order to cover the reported gaps. If the intelligence product has been confirmed/validated, the decision-maker will proceed to capitalize on it (that's why actionable intelligence is needed).

Optionally, after the implementation of the measures ordered or the publication of the judgment / decision, a working meeting can be held with representatives of both parties involved (suppliers and beneficiaries) in order to evaluate the situational change. We choose to add this stage with the optional title because the beneficiary may consider, in certain contexts, that the assessment is aimed at his reasoning.

But this stage should be seen as a last-ditch effort to remedy a vulnerability, risk or threat to society.

As limitations of the proposed procedural model, we mention the reduction of the decision-maker's discretionary right to ignore the received information. We must also highlight the fact that in order to achieve optimal results in the decision-making process, an intelligence product must also meet a quality receiver that processes the information correctly.

We believe that the application of the proposed decision-making mechanism, with all that it entails: the legalization of the formalities, the delimitation of the parties and the roles of each in the process, and the obligatory bringing to public knowledge, would significantly contribute to increasing the level of confidence of the population in the public decision.

This allegation is also the conclusion of the validation of the results of the sociological investigation presented in chapter V and applied in the research, which showed the low degree of trust of the citizens in the institutional decision of the state correlated with its substantial increase, if the process were transparent and exposed publicly from the perspective of the reports of intelligence that substantiates the adopted decisions.

In support of the proposed mechanism, also within the research, it was concluded that the highlighting to citizens of a good cooperation at the level of state institutions, of the provider - beneficiary type of information, would strengthen the level of trust in the information transmitted by the state authorities.

In conclusion, we update Ralph Waldo Emerson's quote "Knowledge is power". Since the developed process of digitization places, us in the information age, where information no longer means power - it being easy to access and convenient for any user, **nowadays the exploitation of information means power**.

The progressive volatility of vulnerabilities, risks and threats to states, the tensions accumulated worldwide with prospects of deepening, the rhetoric and the scale of social phenomena, the efforts of economic recovery following the pandemic period as well as the other unconventional challenges of the security environment of the 21st century, compel to the intensification of attention in the decision-making process and to better inter-institutional cooperation.

#### **Conclusions**

Today's society is faced with numerous crises that highlight the vulnerabilities and limits of available capabilities, emerging risks and threats of the 21st century. The additional pressures on the economy that appeared in 2020 (the C-19 pandemic combined with the socio-economic repercussions and the launch of the offensive of the Russian Federation against Ukraine) revealed pre-existing dysfunctions and the need for a more efficient management of crises, emergency systems and implicitly public systems.

The instability of the security environment is under the sign of the progressive volatility of pessimistic assessments, caused by the dynamics of the global power equation and the accumulated tensions between states and organizations, with prospects of deepening. To be successful in efforts to overcome the repercussions of today's non-conventional challenges requires the contribution of several actors, cooperation and collaboration to optimize public decision-making.

The results of the research represented a barometer in order to elaborate and calibrate the support mechanism in the proposed decision-making process.

The application of the sociological investigation led to a series of conclusions, which we compressed into fundamental ideas in the elaboration of a proposal for a modern decision-making mechanism based on the provisions of citizens' safety. We started with a first hypothesis (validated by the study) about the significant impact on public health, education and employment that the C-19 pandemic had. With regard to the decisions and measures taken to combat it, the Romanian Government and Parliament received low levels of satisfaction from the majority of respondents, as confirmed by research. The measures implemented were perceived as having low opportunities and disproportionate to the social danger citizens were facing, according to another figure in the study. Decisions made in the public health sector were not suited to social reality and were poorly implemented, leading to low satisfaction among people. The data provided by the authorities through open sources (OSINT) were useful in understanding the pandemic situation. However, the primary sources of information during the crisis were unofficial, with journalists and netizens being preferred.

The results of the study lead to the assertion that highlighting good cooperation between state institutions and the exchange of information from the provider to the beneficiary would strengthen people's trust in the information provided by the state authorities. This approach could be applied to any non-conventional challenges faced by the citizens of a state, where situational developments and new recommendations need to be constantly updated and disseminated.

The study indicates that people's trust in public decision-makers would increase significantly if the decision-making process was transparent and based on information analysis reports. The study concludes that transparently exposing the information reports that support the decisions made would substantially increase people's confidence in the decision-making act.

A timely, pragmatic and efficient decision (in accordance with Modern Management) must be justified not only from a legal and scientific point of view, but also anchored in social reality, being based on qualitative intelligence reports, constantly provided, which would also facilitate rational decision-making between decisional alternatives.

Following the applied empirical study, it can be concluded that the transparency and public exposure of the intelligence reports that are the basis of the adopted decisions would significantly increase citizens' confidence in the decision-making process.

From the observation of these perspectives, we considered it useful to develop and implement a mechanism to support the decision-making act. Thus, in order to improve the current public decision-making mechanism, as well as other aspects of the system, we propose a modern model of informational support from the institutions empowered by law to the decision-makers. The proposed mechanism merges the elements of the traditional intelligence-gathering cycle with current elements of the Target-Centered Approach system. In addition, we propose to expand the powers of the parties involved in the process to create a complex mechanism. In this model, the completion of the information cycle should not be the end of the process, the information product should be integrated into the decision-making process, whether it is a public decision, an implemented measure or a decision. Thus, the information product can be used to help decision makers choose the best possible alternative. This two-way support mechanism is based on a see-saw type system, where the parts work together for proper functioning.

To be effective, modern decision makers must be open to innovation and encourage access, transparency and collaboration. A restructured collaboration mechanism is needed between the bodies empowered to inform and the decision-making factors, in which the intelligence services provide high-quality intelligence, based on the empiricism of three quarters of a century of analysis of the way people think, act and collaborate, and decision-makers to integrate the product in order to optimize the effects of the decision-making act.

If we argued above that the exploitation of information means power, then the collaboration of several institutions in order to adopt the best decision-making alternative seems to be a relevant solution.

In conclusion, management is effective if it adopts and applies decisions based on quality information, and information is power, only if it is integrated and capitalized through intelligent management.

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- A8\_Grigorescu, A., **Costovici, D.A.,** (2020). *Managing the unexpected: the first effects of covid-19 outbreak on the global economy*. In: Bratianu, C., Zbuchea, A., Anghel, F., & Hrib, B. (Eds.). Strategica. International Academic Conference Eighth Edition. Preparing for Tomorrow, Today, Bucharest, RO: Tritonic. ISBN 978-606-749-508-9; ISSN 2734 746X & ISSN-L 2734 746X. Bucharest, October 15-16, 2020 Bucharest, pp. 668-679.
- A9\_Grigorescu, A., Costovici, D.A., (2020). European Funds Resilience mechanism against the expected collapse due to the COVID-19 pandemic. The 7<sup>th</sup> International Conference Economic Scientific Research Theoretical, Empirical and Practical Approaches (ESPERA) 2020.
- A10\_Costovici (Mema) D.A., (2021). Ethics in cyberspace dangers and threats. The 2<sup>nd</sup> International Conference Global Ethics Key of Sustainability (GEKoS), Bucharest, Romania. May 14<sup>th</sup>, 2021. On-line.

## B. Conferences

- C1\_Grigorescu, A., Costovici, D.A., Constantin M. (2019). Managing Asymmetric Conflicts in the Dynamics of the 21st Century. Strategica International Academic Conference, Seventh Edition, Organized by National Bank of Romania, The Romanian Academic Society Of Management (SAMRO), Faculty Of Management From SNSPA. Bucharest, Romania, October 10-11, 2019.
- C2\_Costovici (Mema), D.A. (2020). Participation at International Conference European Perspectives on the Labour Market Innovation, Competences, Performance, Bucharest, 15-16 Noiembrie 2019.
- C3\_Costovici (Mema), D.A. (2020). Ethics in the Proliferation of Military Industry. The 1st International Conference Global Ethics Key of Sustainability (GEKoS), Organized by European Business Ethics Network Romania, on-line, May 15<sup>th</sup>, 2020, Bucharest.
- C4\_Grigorescu, A. Costovici (Mema), D.A. (2020). Romania: Two Distinct Financial Periods and the Same Management Errors. BASIQ International Conference New Trends in Sustainable Business and Consumption, Messina, Italy, 4-6 June, 2020.
- C5\_Costovici (Mema) D.A., and Ion, A.-E. (2020). Managing Opportunities Achieving Smart Growth in a Digital Landscape, International Conference Innovative Business Management & Global Entrepreneurship 2020, Organized by: University of Economics and Human Sciences in Warsaw, Poland; Romanian Academy, Institute of National Economy, Romania; South West University "Neofit Rilski", Bulgaria; National Institute for Economic Research, Republic of Moldova; Social Science & Business Research Network SSBRN, Indonesia; Association Holistic Research Academic, Romania HoRA, September 4th, 2020, on-line.
- C6\_Grigorescu, A., Costovici (Mema) D.A (2020). Managing the unexpected: the first effects of covid-19 outbreak on the global economy. Strategica International Conference, 8th edition, Organized by National Bank Of Romania, The Romanian Academic Society Of Management (SAMRO) Faculty Of Management From SNSPA. Bucharest, Romania, October 15-16, 2020, on-line.

- C7\_Ion, A.-E., Costovici, D.A. (2020). Sustainable development prospects within the European Union. 8<sup>th</sup> Edition of the International Conference European Perspectives on the Labour Market Innovation, Competences, Performance In the context of the Covid-19 pandemic, organizat de Academia Română IPE, SNSPA, URA, INCSMPS, on-line, 19-20 Noiembrie 2020.
- C8\_Grigorescu, A., Costovici, D.A., (2020). European Funds Resilience mechanism against the expected collapse due to the COVID-19 pandemic. The 7<sup>th</sup> International Conference Economic Scientific Research –Theoretical, Empirical and Practical Approaches (ESPERA) November 26-27, 2020
- C9\_Costovici, D.A. (2020). The role of policymakers in the attenuation of the cleavage between rural and urban development. Regional Sustainable Development Through Competitiveness, Innovation and Human Capital Seventh edition, Romanian Academy Organized by: Institute for Economic Forecasting, "Vasile Goldiş" Western University of Arad, National University of Political Studies and Public Administration Faculty of Public Administration, 16 December 2020, on-line.
- C10\_Costovici (Mema) D.A. (2021). Ethics in cyberspace dangers and threats. 2nd International Conference Global Ethics Key of Sustainability (GEKoS). Organized by European Business Ethics Network Romania, on-line, Bucharest, May 14<sup>th</sup>, 2021.
- C11\_Mema D.A. (2022). Participation at International Conference ECOSYSTEM EDUCATION WORLD OF WORK FOR KNOWLEDGE PRODUCTION AND TRANSFER, Bucharest, July 9<sup>th</sup>, 2022.

Semnătură Data

Mema