

DECISIONS UNDER UNCERTAINTY IN THE COVID-19 ERA

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Abstract

To be able to estimate an efficient and effective development over time, companies need predictability. Usually, the highest form of predictability occurs when the information media are clear, complete, and stable. In these conditions, the top decision-makers within the organizations have a very good image of the context in which the business is located, as well as on the conditions on it. In this context, managers can relatively easily define the multitude of decision options and implicitly the action scenarios on which they can decide. In reality, things are in the market in a completely different way. The information available to managers is rarely sufficient, or clear, and in most cases is unstable (in sense of time-changing). In other words, the decision taken no longer has sufficient premises to be taken in conditions of predictability, but on the contrary in volatile and unstable environments. Under these conditions, the decision under the condition of certainty turns into a real condition of uncertainty, based decisively on the appearance of probabilities in the decision-making process. The appearance of probable scenarios, instead of certain ones, makes the decision-making process move towards the decision in conditions of uncertainty. In parallel with the increase of information inaccuracy or volatility, increase also the degree of uncertainty in the decision-making options. The economic crisis accentuates the effect of information volatility and as a result, increases the level of unpredictability for decision-makers within organizations. This article addresses theoretical elements regarding the decision in conditions of certainty and conditions of uncertainty, specifying the similarities and significant differences between the two concepts. At the level of the case study, in the present paper are highlighted through a quantitative study the particularities of the managerial decision in conditions of uncertainty economic crisis from 2008-2020. This analysis is compared with data taken from a set of three studies conducted between March and April 2020 by the National Institute of Statistics, on the significant impact of the pandemic generated by COVID-19 on the Romanian economy. The conclusions highlight for each of these two analyzed crises, the perspective of the particularities of the managerial decision in conditions of uncertainty. The conclusions also highlight how managers perceive the action ways in which they can manage this uncertainty.

Keywords

Uncertainty; decision-making; crisis management; COVID-19.

Introduction

There has necessarily been, throughout history, a very important concern of decision-makers of any kind to find intelligent and effective solutions to various types of problems. The leaders of any type of organization, whether in the state or private sector, understood quite quickly that the quality of the decisions taken depends on the future of their organizations and implicitly their staff in the leadership positions of such organizations.

One of the most important issues related to the substantiation of decisions has been related to the identification of intelligent and reliable methods for substantiating these decisions. Thus, emerged branches of science in the field of logic, philosophy, mathematics, psychology, and economics that have consistently studied the decision-making phenomenon. But first of all, it is useful to specify from the beginning that the very term "decision" supports several meanings.

Theoretical approach

A first perspective would be that "the decision can be defined as the solution chosen from a multitude of alternative variants" (Hâncu, 2002, p. 10). This perspective is about choosing a direction from several possible variants. There is also a borderline case, in which the decision-maker can choose not to make any decision, leaving the free will to decide. A second perspective that appears in another author, highlights the decision as "involvement in action, which intends to meet the requirements of a business of certain parties, defined as beneficiaries of the action" (Yates, 2003, p.24).

Regarding the classification of decision methods and techniques, used by decision-makers in general and by managers in particular, there are clearly defined typologies of mathematical and logical models that can be used in such situations (Hâncu, 2002, p.31): The first decisional type highlighted is the "decisional situation in conditions of certainty" which is characterized by the maximum probability of achieving the objective or objectives pursued, based on the decisional modalities previously estimated by the decision-maker. The elements involved in the decision-making process are given by controllable variables, with known characteristics, their evolution being able to be accurately anticipated. In this type of situation, the alternative decision-making solutions and the estimated results of these types of solutions are known.

The second type of decision highlighted "the decision situation in conditions of uncertainty", which is characterized by the fact that, although the possibility of achieving the objectives pursued by the decision-maker is very high, there are still reservations about how action must be taken. In such a decision-making model, the number of variables is high, some of these variables being practically uncontrollable. Regarding the situation of controllable variables, they are difficult to fully understand, so the anticipation of their evolution is approximate, probabilistic. Under conditions of uncertainty, there is little information on the relevant factors that can define the decision-making context, as well as on how to identify these categories of factors.

An important step in substantiating probabilistic decisions was made by researchers John von Neumann and Oskar Morgenstern, who in their thesis on game theory (1944)

abolished the idea of rich as a game of chance and imposed it as a game of strategy. with a probabilistic basis. From now on, in the managerial decision in conditions of uncertainty, only the interpretation of probabilistic evolutionary scenarios was discussed (Knight, 1981).

Starting from here, important steps were taken in decision-making theories, using logical, mathematic, psychological, sociological, or economic arguments. For example, we have differentiated between decision and rational choice, a distinctive note that is successfully used in the choice algorithms used by artificial intelligence. Thus, it can be mentioned here that unlike decision (which is often non-algorithmic), a rational choice can be introduced in an algorithmic process (especially useful for the use of artificial intelligence). Rational choice can thus be reduced to a deterministic or probabilistic process, in which the best solution is algorithmically sought.

The decision can be made when a variant acceptable to be identified is found, while the rational choice stops only when it has algorithmically found the optimal variant. In such a perspective, the decision-making process can be seen as an engagement in a certain sense of action, in the wake of solving a priori identified problems. The problems arise when there are important differences between the final state obtained and the initial one expected.

One of the most important challenges of decision-makers in modern society is related to the efficiency of managerial decisions, to obtain organizational added value. "Without effectiveness, there is no performance, no matter how much intelligence and knowledge is invested in work, no matter how many hours are dedicated to it" (Druker, 2007, p.8). The main problem related to the decision and, more correctly, to the attribution of the decision in a given situation is represented, in part, by the level of information existing at a certain moment and, especially, the completeness of this information, meant to constitute the discrimination threshold. available. Under well-determined conditions and in a limited spectrum of action, one can accept the idea that we can conceive a decision model based on the presupposition of certainty. Decision-makers always lack some of the knowledge relevant for decision making" (Zamfir, 2005, p.13). The main problem is related to the establishment of the discrimination threshold between the available options, to finalize the decisions (in conducting the elections). The impossibility of the existence of a complete, rational system of thinking and decision, proper to the human decision-maker, makes decision models, in conditions of certainty, to have a largely limited spectrum of action.

Due to the importance, but also to the degree of applicability in various fields, the issue of the limits of monotonic reasoning, involved in the decision-making process, has been a topic of debate and deep reflection for many specialists. Thus, in a sufficiently avant-garde thesis through its ideational content, entitled the theory of limited rationality, HA Simon advanced, among other things, the hypothesis that man is, in fact, "a being who tends to rationality" and not "a rational being" (Zamfir, 2005).

Uncertainty is the fact of life and business. Probability is the guide for a "good" life and successful business. Most decisions are made in the face of uncertainty. Probability enters into the process by playing the role of a substitute for certainty — a substitute for complete knowledge (Golub, 1997). Regardless of the type of uncertainty, "a list of all

uncertain events that may affect the choice of a decision" will be constructed (Malița & Zidăroiu, 1980, p.12).

From a logical point of view, any act of social decision necessarily involves at least two elements: an individual or a group of individuals, which represents the deciding agent, and certain variants, which form the object of the decision (Bieltz, 1981, p. 219).

In the following, we will try to highlight the definition of a decision problem in a condition of uncertainty, starting from the available options, on which a decision agent chooses his choice.

Let X_1, X_2, \dots, X_n be the uncertain events on the list of all uncertain events and $X \{X_1, X_2, \dots, X_n\}$ the set of these uncertain events. We will assume that the set M of the variants to be decided on is finite (although there may be situations in which M is infinite).

Let also be p variants, on which the choice is manifested (to complete the decision-making process): V_1, V_2, \dots, V_p , which form an exhaustive and exclusive set.

A problem of the decision in conditions of uncertainty represents the selection of a variant on which we can manifest our choice from the set $V \{V_1, V_2, \dots, V_p\}$, without knowing which of the events from the set $X \{X_1, X_2, \dots, X_n\}$ has had or will take place.

In conclusion, it can be stated that, within the decision models of cognitive uncertainty, the decision-maker can choose the best solutions (and, implicitly, can make the best decisions), based on the level of knowledge and information available to a certain moment given. Such an approach leads to a very interesting conclusion, namely that, by increasing the baggage of skills and / or information, the decision-maker can change his discrimination threshold regarding the choice of a better decision-making option (in the sense of efficiency), possibly different from the one initially assumed.

Basically, it is possible to change the conclusions of reasoning based on the addition of new premises, additional to those initially assumed, which is, in fact, an important step in moving from monotonic reasoning to non-monotonic reasoning. Keynesian theory of economic development shows that, after a certain level of economic development, markets can no longer be left alone to function and regulate based on the free articulation of supply and demand, because a high and persistent unemployment rate is reached. In this case, the imports of some states become the exports of other states, the saving solution to the impasse is the initiation of collective and concerted action on a global scale (Stiglitz, 2003, p.302).

The need for managerial change, induced by accelerated economic development, implicitly requires the following types of changes (Rousseau, 2006, p. 256): the transition from deductive knowledge to inductive knowledge, the evolution from quantitative to a qualitative paradigm, displacement emphasis from a positivist to a constructivist epistemological basis. This shift of emphasis, at the level of conceptual approach, towards a new management system, is not singular. The paradigmatic change mentioned by Rousseau (the transition from the quantitative to the qualitative paradigm) is, in fact, the transition to a new form of approach to management systems, defined as the "new management paradigm" (Gareis, 2005, p.32). According to Gareis' approach, the "new management paradigm" is an essential condition for achieving excellence and performance in project-oriented companies and organizations.

Case study

This article proposes as a case study, an analysis of the influence of uncertainty and factors of uncertainty on the managerial decision, in conditions of economic crisis. Studies were taken as a reference that highlight the features of the managerial decision, as they were registered during the great economic-financial crisis (from 2008-2012), as well as the economic crisis induced by the appearance and development of virus COVID-19 (during the period beginning of 2020 and until now).

To highlight the feature of the managerial decision in conditions of uncertainty, during the great financial crisis from 2008 to 2012, the data resulting from quantitative research based on the questionnaire (personally conducted in 2012) were used. To identify the effects of uncertainty on the managerial decision in the economic crisis generated as a result of the effects induced by COVID-19, a research was conducted focusing on the secondary data analysis of three surveys conducted in March - April 2020 by the National Institute of Statistics.

The role of conducting a comparative analysis regarding the influence of uncertainty on the decision of managers in the two types of crises (2008 - 2012 and 2020) is to highlight similarities and possible differences in managers' action patterns.

I. Analysis of the particularities of the managerial decision in conditions of uncertainty in the Romanian economic environment, as a result of the economic-financial crisis from 2008 -2012

The quantitative research proposed for the analysis was carried out through personal efforts between September 2011 and January 2012. As a working methodology, sampling was used on a simple random probabilistic sampling basis. The data were collected by the CSAQ method (Computer-assisted self-administered questionnaire). Thus, potential respondents from the target group received an e-mail presenting the research, along with a link to a web platform dedicated to completing the questionnaire. A total of 797 decision-makers took part in the survey, coming from 797 organizations, whose distribution according to the type of company was: 691 private companies, 59 public institutions, 47 non-decision-making organizations. governmental. Out of the total number of private companies, almost 52% belong to the Bucharest-Ilfov Development Region, 22% to the North-West Development Region, and 23% to the North-East Development Region.

Given the purpose of the study, the research universe is represented by people within the organizations involved in the decision-making process. Given the difficult access and low availability of top management to participate in such surveys, we included, in the category of potential respondents, people from organizations that hold lower positions in the hierarchical structure, but which are frequently in the situation to make decisions within the organization of which they are part (department director, program coordinator, deputy director, etc.). Despite the flexibility of this criterion, it should be noted that the representatives of the upper management area of the companies (top-management) represent the largest segment of respondents (respectively 69.5% of the total), followed by representatives of the segment with average decision-making power in the surveyed companies. (middle-management, with a percentage of 22.2% of the

total), respectively the representatives of the segment with low decision-making power (lower-management, with a percentage of 7.0% of the total).

As mentioned above, the research focused in particular on the people involved in the decision-making process in private companies, the answers received from people working in public institutions and NGOs only to allow comparisons, statistically relevant, between the three types of organizations. From this study, a short section was selected, which was not previously published and which is relevant for the study of the issues developed in this article. Thus, regarding the major sources of inspiration of the managers, used in the decision-making process, the respondents generated a series of answers that are mapped in the following table.

Research Question 1: How often do you consult the position of the following sources, when you have to make an important decision within the organization?

Table 1. Important sources of inspiration consulted by managers in important decisions x

Sources consulted in important decisions	Level of consultation (cumulated "often" and "very often" options)
Previous similar cases	91,72%
Legislation	79,30%
Reliable partners and collaborations	64,12%
Colleagues on the same hierarchical level	63,61%
Subordinates	57,34%
Specialized works	56,84%
Superiors	49,56%
The international environment	42,79%
Close people (family, friends)	35,88%
Mass - media	26,47%

Source: Own research

As can be seen from the analysis of the data presented in the table above, managers decide to the greatest extent, based on the existence of similar cases in the past (91.72% of options). This would mean that they can decide most easily when faced with a type of Cossack they already know a priori. This idea brings us closer to the level of decision in a state of certainty and places us far from the conditions of uncertainty (in which it is usual not to have a type of previous case study, which can help you in the decision-making process). Then follows the verification of the legality of the decision (a fact confirmed by the verification of the 79.30% legislation) as well as the consolidation of one's own opinion, by consulting with other trusted persons (64.12%). The opinion of subordinates (57.33%) is also consulted, which suggests the existence of a participatory leadership level, as well as the opinion of superiors (49.56%), which suggests the existence of organizational culture with respect for hierarchy. At the diametrically opposite pole (with the fewest options formulated) it is noteworthy that managers use very little information from the media to substantiate their important decisions (26.47%). This approach could also translate into a lack of trust in this component in the information process. Another relevant aspect of the study shows that organizations perceive the impact of the crisis differently on their organization, as well as the fact that this impact has multiple action components.

Research Question 2: To what extent have the following negative effects of the crisis been felt within your organization?

Table 2. Negative effects of the crisis felt within the organization

Category affected by the negative impact	Level of occurrence (cumulated "often" and "very often" options)
Postponement or cancellation of development projects	61,73%
Difficulties in financing current projects (obtaining loans/grants)	49,44%
Restriction of activity	43,91%
Staff reductions	34,25%
Decreasing the value of the organization's fixed assets	33,38%

Source: Own research

The most important negative aspect felt by managers is the postponement or even cancellation of development projects (61.73%) followed by the difficulty of financing their projects in implementation (49.44%). In other words, the component most strongly affected by the crisis is the development of the company (whether we are talking here about future development or current development, which is in various stages of progress).

Another very important component induced in the managerial decision by the economic crisis is the "reduction" of the company's activity (43.91%), respectively staff reduction (34.25%). Most of the time the reduction measure is used by the managers in practice in parallel with the measure of stopping the development through the projects.

The third important effect felt by managers in times of crisis within their own companies is "decrease". The most important type of decrease felt by the managers participating in the survey is decreasing the value of the organization's fixed assets (33.38%).

In the "lessons learned" chapter by the managers participating in the survey, they were divided into three distinct categories: essential changes in decision support, secondary factors that can essentially support the managerial decision, and personal lessons learned by managers. those organizations, following the experience, gained in the economic crisis.

For the first aspect analyzed, which is what became the most important in substantiating the decision in crisis conditions, the opinions below were recorded.

Research Question 3: Due to the economic crisis, to what extent have become more important to you in deciding?

Table 3. Category of items becomes more important in managerial decision due the economic crisis

Category becomes more important in managerial decision after crisis	Level of occurrence (cumulated "often" and "very often" options)
Analysis of the internal resources of the organization	87,33%
Information about collaborators	67,25%
Recommendations from others in the business	61,10%
External funding opportunity	58,34%

Source: Own research

The four most important categories of responses recorded in the post-crisis management decision are related to the analysis of their organizational resources at a much more significant level of detail than before the crisis (87.33%). Next in the top of preferences is better information on employees and especially on their potential support in the crisis (67.25%). An important role is also played by the recommendations offered by other partners in the business on ways to take future action (61.10%), as well as by the search for new funding opportunities (58.34%). Regarding the categories of secondary factors, but with great influence in the process of substantiating the decisions in the post-crisis period, the following aspects can be highlighted.

Research Question 4: What other categories of secondary factors have the economic crisis made you pay attention to in terms of managerial decisions?

Table 4. Category of secondary factors important in the managerial decision after the economic crisis

Category of secondary factors important in managerial decision	Percent of valid answers
Internal and external economic situation and market trends (exchange rate, growth forecasts, change in consumer behavior)	20,96%
Management of company resources and cost control (financial resources, cost reduction, price, need for liquidity)	19,24%
Stability of the financial situation of business partners (solvency of customers, their goodness, the fairness of suppliers, seriousness)	15,46%
Competition and competition information	11,68%
Evolution of the domestic and international political environment (context, legislation, policies, forecasts)	11,34%
Risks and opportunities (potential, adaptation, caution)	9,62%
Strategy (reorganization, reorientation, long-term plans, sustainability, finding market niches)	8,59%
The company's human resource and its flexibility (labor productivity, human factor)	3,09%

Source: Own research

In order of preferences registered by managers, the secondary factors of particular importance in the managerial decision in the post-crisis era are those presented in table number 4. The dominant elements highlighted by respondents are related to a better knowledge of business context elements (both internal and external), as well as better control of resources (both material, financial, or human). Then follows the need for the financial stability of business partners (without which the risks of collaboration in the business increase) as well as elements related to the political and economic context.

A special role in the respondents' options in the survey is related to better risk management and the opportunities associated with these risks in business development (9.62%). Basically, managers recognize that they need better management of the state of decision-making uncertainty, which is inevitably inherent in conducting business in crisis conditions. Another very interesting aspect of the study undertaken on the 797 Romanian organizations, in the period of economic and financial crisis related to the years 2008 - 2012 is represented by the lessons learned by managers. The research question as well as the results of this study are highlighted below.

Research Question 5: What lessons have you learned personally as a result of the economic crisis?

Table 5. Lessons learned personally as a result of economic crisis

Lessons learned for managers	Percent of valid answers
Checking resources and streamlining expenses	18,78%
Prudence, caution, responsibility (assuming them as new values by the organization)	17,51%
Adaptability and flexibility as development imperatives	11,42%
Lack of security and predictability in the business or political environment	9,39%
The need for savings and reserves	8,63%
The importance of efficiency, changing the pace of work and the quality of work	7,61%
Selecting business partners and customers are crucial to business success	6,85%
Planning and looking to the future	6,35%
Using development examples and experiences from other countries	1,78%
Other	11,68%

Source: Own research

Analyzing the data presented in Table 4 and those in Table 5, we can conclude that they are in a close relationship. For example, the secondary factor “management of company resources and cost control (financial resources, cost reduction, price, need for liquidity)” with a percentage (19.24%), has a correspondent in Table 5, in the lessons learned in the chapter “checking resources and streamlining expenses” (18.78%). Also, the secondary factor “risks and opportunities (potential, adaptation, caution)” in table 4, with a level of options (9.62%), has an equivalent in table no.5 (of lessons learned), namely “lack of security and predictability in the business or political environment” (9.39%). These findings lead to the idea that managers, once they have identified the problem they had on their agenda during the crisis, can assume it in the chapter "lessons learned" for the future.

II. Analysis of the particularities of the managerial decision in conditions of uncertainty in the Romanian economic environment, as a result of the economic- crisis of COVID-19 at the beginning of 2020

The second part of the case study highlights, in secondary data analysis, the perception of the managers of organizations on the decisions they have to take in conditions of uncertainty in the economic crisis induced by the virus COVID-19. The three studies analyzed, were conducted between March and May 2020 by the National Institute of Statistics, on samples of respondents with national representation. The first research entitled “*Assessment of the impact of COVID-19 on the economic environment, in March and April 2020*”, was conducted between 17 and 19 March 2020, on a sample of 8831 nationally representative economic agents. The industries analyzed in the study were: manufacturing, construction, retail, and services, their questioning being related to the perception that respondents have on the evolution of the economic activity of their organization in the next period.

From this study, only the predictability component of the decisions that managers have to make in crisis conditions generated by COVID-19 was extracted. Thus, the study highlights the fact that in the early period of 2020, the level of decision-making inertia among the Romanian managers surveyed was very high. For example, at the level of March 2020, 21.2% of economic agents could not assess how their business will evolve in the next period. According to the same study, this percentage increased to 31.4% of the number of respondents, at the level of April (Report 1 COVID-19, 2020, p.2). Practically analyzing the above data, it results that the level of unpredictability on the future evolution of the business increased by about 50% in a single month (March - April 2020).

The causes that were the basis for the increase of such dramatic decision uncertainty in just one month were related to: "restriction of economic activity" from 12.9% in March 2020 to 6.4% in April 2020, respectively "restriction of the volume of activity from 7% in March 2020 to over 25% in April 2020", for the organizations included in the study (Report 1 COVID-19, 2020, p.1). Against the background of this high level of decision-making uncertainty, the consequences of the lack of concrete decisions were very important for the analyzed organizations.

The first observation would be related to the fact that these changes manifested themselves in an extremely short period (incomparably shorter in terms of time, than in the case of the financial crisis of 2008-2012). A second observation is related to the magnitude of the decreases registered within the organizations analyzed in this study. The share of organizations that fell by more than 25% (in terms of shrinking economic activity) increased very rapidly from 33% in March 2020 to 45% in April 2020.

According to the study, one of the most severely affected industries by the economic crisis generated by COVID-19 was the manufacturing industry. In this industry "uncertainty is the main feature of the estimates of the volume of activity, as the share of those who cannot estimate the future direction of activity increases from 24.5% in March 2020 to 40.1% in April 2020" (Report 1 COVID-19, 2020, p.2). A similar evolution is registered in the field of transport services, where the percentage of managers who cannot estimate the future direction of the company's activity, increased from 25.9% in March 2020 to 40.1% in April 2020 (ibidem, p.3).

In the second research entitled "Trends in the evolution of economic activity in March-April 2020", conducted by the National Institute of Statistics between 17 and 19 March 2020, were conclusions compatible with those presented in the previous study. Practically, the conclusions of the second study complement the ones presented in extenso in the previous study highlighted above. It is stated that "the most affected will be small and medium enterprises whose managers have estimated that the main risk is a reduction of over 50% or even the closure of economic activity" (Report 2 Tendencies, 2020, p.1). Like the previous ones, this study indicates that "48% of managers cannot estimate how the economic activity will evolve in April 2020" (ibidem, p.3). This statement once again confirms the very low level of predictability that managers had in the first period of 2020.

In the third study analyzed, entitled "Ad-hoc research on assessing the opinion of managers on the volume of exports and imports of goods in March 2020", conducted by the National Institute of Statistics in March 2020, was selected 1551 Romanian

companies (covering as the volume of transactions over 50% of the total export-import balance of Romania). And in this study, we were strictly interested in highlighting the perspective of uncertainty, which influences the managerial decision. Thus, according to the study, 15% of the companies surveyed could not estimate in any way how exports will evolve in the next period for their companies, while 2.4% did not answer this question at all (Report 3 Ex -Im, 2020, p.2). Also, according to the same study, 19.7% of respondents could not estimate how imports for their companies will evolve, given that 4.6% of respondents did not provide an answer to this question.

Conclusions

Following the writing of this academic paper, we wanted to highlight how uncertainty influences the managerial decision, in general, but especially in times of economic crisis. To exemplify these types of interactions, at the level of the case study, comparisons were made between the way managers reacted to uncertainty factors during the economic and financial crisis from 2008 to 2012 (based on the analysis of data from a personal study conducted in that period) and that during the current economic crisis generated as a result of the presence of COVID-19 globally (based on the analysis of data from official reports provided by the National Institute of Statistics, during March - April 2020).

The conclusions we can advance indicate the following aspects:

- In both the economic crises (the one from 2008 to 2012) and the current one generated by COVID 19, the level of information uncertainty was very high.
- In both crises analyzed, the economic uncertainty directly affected the functioning of the analyzed businesses.
- Managers were aware in both crises of the presence of information uncertainty (which also had an impact on decision-making and action uncertainty) and were not prepared to adequately manage these crises.

As peculiarities, during the first crisis analyzed, the managers had time to reflect on the mistakes made and to be able to propose some ways to manage the decisional uncertainty for the future. They also feared less that they would go bankrupt, as in the second crisis analyzed (the one generated by COVID-19).

The specificities of the crisis generated by COVID-19 on the Romanian economic environment are related to a very high level of unpredictability on the future evolution of its company, a very high magnitude registered in the reduction of economic activity and workload (with very large oscillations recorded from one month the high). The percentage of "I don't know/don't answer" type response registered in the studies that highlight the economic evolution during the period of COVID-19 in Romania is over double the percentage of the same category of response in the first study analyzed. This aspect also shows that in the COVID-19 crisis, not only the number of those who cannot predict the future evolution of their company is very high but also the number of those who cannot provide any answer is also very high.

Also, the COVID 19 crisis had the particularity of the fact that it affected much more deeply in Romania a lot of economic activities than in the first crisis analyzed. Under these conditions, a better knowledge by managers of the elements of economic

forecasting and implicitly of risk management becomes for managers who want efficiency and managerial efficiency, a real challenge but also an opportunity in the fight against the unpredictability of the future society.

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