International Journal of Business and Management Invention (IJBMI)
ISSN (Online): 2319-8028, ISSN (Print):2319-801X
www.ijbmi.org || Volume 9 Issue 8 Ser. II || August 2020 || PP 51-57

Challenges in managing the education system in 2020

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ABSTRACT: *The importance of educational management has risen in the last decade, both in Romania and at the European level. The vital role of the decision-making processes in all management structures represent a continuous concern, especially for strengthening the capacity of decision-makers in educational institutions to develop quality decisions that lead to increased efficiency and competitiveness.*
The quality of decisions in the educational field is analysed in the light of the results obtained. Therefore, this research paper aims to provide a better understanding of the decision-making mechanisms in the field of education. The education system is a fundamental pillar of society, affected by the changes imposed by the pandemic like all other sectors of activity. The paradigm shift, from physical to virtual, has had a strong echo in this area, forcing managers to make effective decisions under the auspices of global uncertainty.
In this sense, the objective of the research is to identify and analyse the national management and the decisions in the educational process regarding the assurance of the continuity of the educational act in Romania.
KEY WORD*: decision maker, educational process, crisis management, national management, Ministry of Education*

Date of Submission: 07-08-2020 Date of Acceptance: 21-08-2020

I. INTRODUCTION AND LITERATURE REVIEW

Contemporary institutions and organizations, in order to be managed efficiently, require decision-making competence, supported by modern scientific problem-solving procedures. The managerial decision-making act represents the essence of the management process. The formulation, adoption and application of the managerial decision influences the activity of the organization, the employees, and the natural environment. The decision is the course of action chosen to achieve one or more objectives; implies the existence of several elements: one or more objectives; identifying several options for achieving the objectives; selection, as a conscious process of choice for one of the outlined possibilities of realization. Two action groups are involved in decision-making: establishing and defining the decision-making problem and choosing the optimal solution that, in the given context, will satisfy to the highest degree the objectives pursued by the decision-maker. Based on the significant information, the management team or the manager decides, they choose a solution from several possible variants in order to coordinate and regulate the subordinated activities, as well as their control and forecasting (Grigorescu, 2011).

In management, decisions can only be made under the impact of knowing the concrete reality, representing final acts of the manager's thinking process, which have a role in maintaining the organization in a dynamic balance.

Viewed in this respect, the decision is the act of transition from thought to action. Boldur (1973) considers that from a praxiological point of view, the variants of a decisional problem represent means available to the decision maker and he can use lucidly. The decision maker has the freedom to choose one of the options, but there is an objective, independent of his will.

For an organization to be scientifically led, the decision-making process must meet the following basic requirements: have a fundamental scientific content; be the result of the analysis of at least two possible variants of action; to be taken on time; the ideas it contains must be clear, simple and logical; to maintain the balance between the authority and the responsibility of the decision maker.

Any scientifically based decision must go through several stages: specifying and finalizing the objective pursued by the decision maker, established when dysfunctional states appear in the organization; collecting and analysing information that must be robust and cover various areas: human resources, financial resources, legal issues and technical and economic issues; establishing variants and decision criteria; choosing the optimal decision based on the optimization principle; communication of the decision: its transmission will be in a simple and direct form; the route of transmission of the decision to be "the most direct and shortest"; to use mechanized and automated means.

The decisions will be sent at the appropriate time, in the right place and to the person with direct responsibility in the application stage. The wording of the decision must be clear, logical, easy to remember, complete, concise and convincing; application and control of the decision based on a concrete action program, materialized in provisions, orders, based on which the captured decision is binding. The control is established in order to offer logistical support, respectively to facilitate the application of the decision. The decision starts from the action and returns to the action; it is transmitted to the executors through plans, programs, normative acts, norms, standards, orders (Grigoresci, Olteanu, 2014). The managerial decision consists of: the decision maker, the formulation of the decisional test, the set of decision variants, the set of assessment criteria, the set of consequences, the set of objective conditions and the objectives of the decision. To these fundamental aspects can be added the environment and time.Modern management science uses decision analysis that uses a formal model to represent alternatives and decision criteria that are relevant to the problem under analysis, the probabilities of nature and the expected consequences, in order to make the optimal decision.

It is recommended in situations where the risk is significant. Decision analysis is a systematic approach to the decision-making process and allows the decision maker to deal with decision issues characterized by uncertainty. It builds a normative model for the representation of the decision problem, which facilitates its subsequent analysis and produces a decision based on objective considerations. The formal model obtained is able to generate optimal strategies for decision problems in several stages. The analysis of decisions is based on a clear conceptual distinction between the actions that the decision-maker is free to take and the circumstances that are completely out of his control. In other words, the analysis of decisions needs to separate the controllable from the uncontrollable parts.

Like the traditional decision-making process, decision analysis has a number of steps that are performed in a specified order.

Figure 1: Stages of decision analysis

Source: own processing after Simion H.A theory

If at a certain stage it is found that additional elements not considered in one of the previous stages are needed, return to that stage and continue the execution there, following the sequence.

Recognizing the problem

First of all, the existence of the decision-making problem must be acknowledged. There are apparent problems, manifested by symptoms, and real problems. The analyst must know how to distinguish between them. Symptoms are signs, appearances, which indicate the existence of certain deficiencies of the system, but should not be confused with them. Treating a symptom does not mean removing the cause. On the other hand, the type of decision-making problem must be taken into account.

The term problem has a negative connotation in English, suggesting a difficulty, deficiency, abnormal situation, which must be solved. In general, there are two types of decision problems: negative and positive.

Solving negative problems means removing the difficulty or deficiency, respectively solving the abnormal situation. Positive issues are opportunities, opportunities that arise in the economic environment and should not be neglected. Solving them can be profitable in the medium and long term. At the same time, they are more difficult to recognize because they are not manifested by apparent symptoms.

Defining the problem

Unlike the homonymous stage presented in the traditional decision-making process, the definition of the problem in the analysis of decisions means a clearer specification of its elements, grouped in two categories: general elements, specific to all decision-making processes, and problem-specific elements.

The general elements refer to the following: the decision maker, the purpose of the decision, the restrictions. The decision maker is the person who makes the decision. The identification of the decision maker is necessary to establish the purpose of the decision issue. If the decision is collective, reaching consensus is essential. The goal can be expressed by maximizing / minimizing a certain variable: profit, royalties. In the following we will consider one-criterion decision issues. Restrictions are the constraints that must be met to achieve the goal. Their nature is varied: financial, technical, legal, ethical, political, etc.

The specific elements of the problem serve to structure the model and refer to: decisional alternatives, states of nature, consequences, probabilities. The decisional alternatives represent the options from which the decision maker chooses the optimal one. The states of nature are situations in relation to which the decision maker analyses each decisional alternative. The consequences are quantitative measures of choosing a certain alternative combined with the appearance of a certain state of nature. Probabilities are associated with the states of nature and characterize the uncertainty of their occurrence.

Model building

Once the problem is defined, a prototype model can be built, the first version representing the decision problem. The prototype should be as simple as possible, without details. As the necessary data is collected (in the next stage), the model is detailed and reformulated to take into account newly emerged elements. A balance must be struck between the need for detail and the clarity of the model - too deep detail does not necessarily increase the quality of the model. There are two well-established ways of representing the model: the decision matrix and the decision tree.

The decision matrix is a tabular way of representing the elements specific to the decision problem. Its lines represent the alternatives, and the columns the states of nature.

The decision tree is a graphical way of representing the specific elements of the decision problem. It consists of nodes connected by arches / branches. There are two types of nodes: decision nodes, marked by squares, and state (of nature) nodes, represented by circles. The branches that originate in the decision nodes represent the action alternatives being labelled with their identifiers. The decision tree is drawn from left to right, following the chronological sequence of the decision problem. It starts with a decision node from which decision branches corresponding to the alternatives are drawn.

Collecting the necessary data

The format model contains parameters and variables. Parameters are quantities considered constant for the model. Variables are quantities whose value change, depending on the decision maker's control over them and are classified as controllable and uncontrollable. Controllable or decision variables refer to decision alternatives, and the value of uncontrollable variables is influenced by factors external to the model and cannot be controlled by the decision maker. The states of nature fall into this category. Data collection involves the collection of information about variables and parameters: the range of possible values, the most probable values. Estimates are also made of the plausible values of the results.

Execution of the model means performing the necessary calculations to obtain the results / outputs, using the input data specific to the problem. The evaluation of each variant in relation to each criterion is reflected in the consequences matrix. Usually, the calculations are performed by specialized computer programs, which implement the decision rules. The decision rule transforms a line in the consequences matrix into a number, which is a characterization of the line as a whole. Each decision criterion has its own rules.

The analysis of the obtained results aims at establishing the decision prescribed by the current model. Because models are idealized simplifications to reality, the outputs must be considered only possible solutions to the current decision-making problem. The model is said to be sensitive to data if fine changes in the values of parameters or uncontrolled variables produce much larger changes in the outputs. To determine whether the model is robust enough, its sensitivity is analysed, giving different values to the input data and comparing the results obtained for each data set. If the model is sensitive to certain data / parameters, it is recommended to resume the analysis with the problem definition, in order to detail the influence of these data / parameters.

Interpretation of results

Decision analysis models determine maximum or minimum results based exclusively on the structure of the model and the working hypotheses explained. In real life, results can also be influenced by factors that were not taken into account in modelling. For example, the difference between the result obtained with the recommended alternative and that obtained with another alternative may not be significant, if factors not included in the model are also taken into account. It is recommended that the results of the model be interpreted in terms of managerial realities. However, the model is useful because it produces a clear picture of the situation and provides a degree of objectivity that helps to make a subjective decision.

Recommendation of the way to follow

The analyst's work ends with the presentation of the results given by the model application. The implementation of the decision is the prerogative of the manager. In order to increase the efficiency of the decision-making act, the manager must follow some rules: to define his problem, then to initiate the decision-making process; for each possible solution, to devote the necessary time to its study; to estimate the possible consequences and not to rush the decision; to consult subordinates in decision-making, taking into account their competencies; to ensure the continuity of the decision-making process. Lastly, it is the manager`s duty to respect the known managerial principles: the command and control unit, the competition between authority and responsibility, and to avoid multiple subordinations.

Efficiency is a habit, a self-discipline, i.e. a complex of practices, and these are simple and easy to understand, but must be mastered until they become a conditioned reflex. In essence, according to Drucker (1966) there are five practices, five skills of the mind that must be mastered in order to become an effective decision-maker: knowingthe time span, focusing on external contribution, focusing on the few major areas in which the higher activity will produce important results, making efforts to set priorities and respect the priority decisions.

As a rule, an efficient manager tries to be himself, analyses his own activity, his own results and tries to discern a model. Effective decision makers do major things first and don't do two things at once, so the "secret" is concentration. When a manager wants the decision to be effective, he must answer the following questions: is the given situation generic or an exception? Is it something that underlies many facts? is it an event that must be treated as such? The generic must be confronted with a rule, a principle, and the exceptional can only be taken as it appears. The only way in which the goals of the organization and personal needs can be met is precisely this formation of the decision-maker for efficiency.

The process of decision-making stands at the core of all organizational systems as it is intertwined the management attributions. In any domain there are certain moments when a strong and qualified management is needed and, consequently, effective decisions are to be made. The educational system makes no exception. Decision- making is found within all managerial structures of the educational system, from school`s administration to national management conducted by the ministry. In times of uncertainty, such as the current COVID-19 pandemic, efficient decisions are expected and a continuously growing public attention increases the pressure already amounting on authorities' shoulders. Crisis management measures include hybrid solutions taken to adapt the rigid traditional school system to an online environment, a rather challenging target for both managers and beneficiaries.

II. RESEARCH OBJECTIVES AND METHODOLOGY

The objective of the research is to identify and analyze the national management and the decisions in the educational process regarding the assurance of the continuity of the educational act in Romania.

As variables of the research study, we chose to emphasize the degree of technology imposed by the crisis management generated by the COVID-19 pandemic in contrast to the fragile infrastructure of disadvantaged environments, which obstructed free access to education.

The main hypothesis highlights the need to correlate the managerial decisions with the factual reality. in the context in which a third of the students do not have the necessary infrastructure, the educational act in Romania cannot meet the basic standards.

To analyse the decisions taken at national level on the educational process in Romania, we chose deepening theoretical knowledge in order to clarify the level reached in the academic field - modern management based on decisions analysis. We chose to use the qualitative research methods: direct observation and case study.

Direct observation was used to highlight the subject analysed, national education management in contemporary society. The case study involved identifying the most relevant decisions taken by the Ministry of Education during the crisis management generated by the COVID-19 pandemic.

The research is empirical and emphasizes the balance of positive and negative elements following the decisions adopted regarding the Romanian educational process.

III. THE LATEST MANAGERIAL DECISIONS IN THE ROMANIAN EDUCATIONAL PROCESS

Education is going through an unprecedented crisis. The emergence of the COVID-19 pandemic has made it absolutely necessary to take measures at the level of each state to combat the spread of the virus. These decisions have affected the education system since the first wave, causing significant disruptions in education, training and mobility activities for students, teachers and educators in the European Union (EU) and beyond.

Let us emphasize the essential roles of education for the individual and society: significant implications for economic prosperity, stability and social development, personal development, essential cultural implications, social role(Ministry of Education and Research, 2019).

To ensure the continuity of education and training activities, online working tools have been implemented and multiple projects with European funds have been launched.Furthermore, the European Commission has launched a public consultation at EU level on the revision of the Digital Education Action Plan to ensure that the future Plan will reflect the experience gained in vocational education and training by Member States during the Covid-19 crisis.

This action plan sets out how education and training systems can make better use of innovation and digital technologies and can support the development of relevant digital skills needed, for personal or professional purpose, in an era of rapid digital change. The action plan focuses on the initial education and training systems and targets schools, vocational education as well as training and higher education.

As a direct result of the pandemic, most schools and higher education institutions have suspended face-to-face courses and moved to online and distance learning, with digital technologies being used on an unprecedented scale.Digital technologies enrich the learning process in various ways and must provide learning opportunities that should be accessible to all. They provide access to a large range of information and resources. In the current context, the digitization of the educational process is the optimal solution to ensure the continuity of the education process.

For the Romanian state, this global pandemic was more than a challenge. From March 11 2020, the schools were closed until the end of the school year, and this generated major changes in the development of the educational act. Regarding the national management,the most negative effect of this managerial decision was the lack of equal access to the educational process.

The decisions taken by legislators, ministry, inspectorates and schools influenced the daily life and education of 2,824,594 students in Romania. When adopting the measure, the 52,000 households in Romania, which still do not have electricity and in which there certainly are children, were not taken into account (IRES, 2020). So, the pandemic realities show that 32% of children, totalling approximately 900,000 of the students enrolled in pre-university education in Romania do not have individual access to a functional device (eg laptop, tablet, desktop) for the online school.

In order to combat this reality at a national level and in order to adapt to the COVID-19 crisis, the national management carried out the following initiatives: TELEȘCOALA (REMOTE SCHOOLING), #IMIPASĂ #ȘcoaladeACASĂ Campaign, AMBASSADOR FOR THE COMMUNITY. Thus, based on the collaboration between the Ministry of Education and Research and the Romanian Television (TVR), lessons were organized and held on the TVR2 channel for the end of school year students (8th grade and 12th grade), in order to prepare them for participating in national exams, a program that will continue in the fall of this school year.

At the managerial level, it was considered that under the given conditions, the online school was, during the second semester of the 2019-2020 school year, the only responsible way for continuing the educational process.The online school was, at the same time, a reason and a way to support students, but also to explore new ways of learning. The use of video materials with different subjects, artistic or documentary based, online books and other resources helped the students, in the known sanitary conditions, to browse, in a new way, the specific curriculum of the different school subjects.Disadvantages of this teaching / learning system were noted: lack of face-to-face interaction, in some cases lack of access to technology, lack of adequate assessment, testing or grading of students' activity, difficulty in the use of ICT, lack of learning spaces etc.

Students, teachers and obviously parents were involved in the online learning process. The process of distanced communication, the adaptation to the new type of messaging, the decrease of the autonomy they had before the crisis represented, for the students, an adaptability challenge.In the case of the teachers, the challenges proved to be quite different. They were expected to have a certain proficiency in using platforms, a dexterity to prepare the classes in a different way from the one they were accustomed to. They were also required to use new learning methods, ones that some of them would only use for certain types of lessons and specific school subjects.These decisions regarding the Romanian education have become the responsibility of several categories of people, who have a decisive role in carrying out an educational act in optimal conditions. Parents, for instance, had been given complex tasks, especially regarding smaller children, who are in need of a complementary preparation for lessons, as well as help during the learning process. In the case of primary

school students, their parents or tutors were required to assist them during the online school activities, seeing that the children were not old enough to successfully operate on the internet platforms.

Each of the categories of participants in the educational act (students, teachers, and parents/family) had to adapt to new situations, considered by many as challenging.

Through the educational and resource assistance granted by each county centre, but also through the collaboration of the Ministry of Education and Research with non-governmental organizations, a special counselling for parents, students and teachers has been provided. Despite this fact, it should be emphasized that not all environments have had this opportunity.In knowledge of the decision-making process, after a problem has been identified, support decisions are taken in order to solve it.Thus, the Ministry of Education and Research (main decision maker in the educational process) developed, during the pandemic, a series of normative acts on how to resume courses in order to prepare students who were required to take national exams (National Assessment and National Baccalaureate Exam). The main purpose was to prevent and limit the risk of transmitting the virus. A series of strategies have also been elaborated, materialized in guides, referring to the beginning of the school year 2020-2021, the aim being to begin the school year in the best conditions.

IV. FINDINGS AND INTERPRETATION

Given the explosive increase of cases of illness in July 2020, a decision of the Ministry of Health is expected regarding the education system, after August 15 this year, which will clarify the path that the Ministry of Educationand Research will have to apply in the new school / university year, whether face-to-face, online, mixed or through other intermediate forms, depending on the level of education and other variables. Nevertheless, the application of these measures in a decentralized spirit is considered, by each county board of education and by the educational units, depending on the evolution of the pandemic on a local level. Currently, schools also consider the parents' options on how to conduct the 2020-2021 school year.

Three scenarios have been recently considered and underlined for the resumption of courses in the 2020-2021 school and university year:

- The resumption of the courses according to the classical model, but with the compliance of the measures to prevent the spread of SARS-COV-2;
- The presence of pupils and students in classrooms by rotation while colleagues attend classes at home;
- The continuing of online courses.

In an attempt to tackle the low financial conditions of some children / students, which inevitably led to the obstruction of access to education during the COVID-19 pandemic, Ministry of Educationand Research initiated an extensive program on providing the technology needed to organize online courses. In this sense, through HG370/2020, the RomanianGovernment has allocated the amount of 150 million lei for the acquisition of 250,000 electronic devices, connected to the Internet, intended for students from disadvantaged backgrounds. It is estimated that, by the beginning of the school year, the devices will reach the schools and students and will be a real support for those who were not able to participate in online education.

We want to mention that an attempt of helping students from financially affected backgrounds was also pursued, shortly after the start of the online classes in the second semester, by providing schools with electronic devices (computers/laptops) in order to be lent to students or teachers. That attempt proved to have been poorly researched, as many financially impaired students, especially from rural areas, did not have the means to utilize the devices, due to the lack of internet connection or poor electricity sources. Moreover, in the cases of students that reside with grandparents or other elderly family members, there has been a poor or even inexistent possibility of communication and assistance with the installing of the mentioned devices.

V. CONCLUSION

As a result, many students have not been able to complete the educational process and, despite having graduated the semester, are expected to recover the missing school curriculum in the following school year. On the opposite plan, despite the intentions of the Ministry of Educationand Research, teachers have not yet been provided with satisfactory preparation for pursuing online learning activities. Schools are still waiting for an online teaching guide, much promised by the Ministry of Educationand Research. Most of the measures debated on the media have remained, unfortunately, in the stage of planning, putting the blame on the lack of funding.

Attempts to technologicalize the educational process are welcome, following the crisis management, establishing that the main problem is the fact that Romania still does not have the necessary infrastructure to support students from disadvantaged backgrounds. The process of identifying pupils / students with possibilities and those eligible for state aid is also of managerial competence. The decision making process must be preceded by thorough analyses and investigations in order to efficiently spread the available resources.

Following the research, we found that the decisions taken at the level of the Ministry of Educationand Research are in correlation with those imposed at EU level in countries affected by the pandemic, but insufficient to ensure the continuity of the educational act to pre-pandemic standards.

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Gicu-Valentin Dogaru. " Challenges in managing the education system in 2020." *International Journal of Business and Management Invention (IJBMI)*, vol. 09(08), 2020, pp. 51-57. Journal DOI- 10.35629/8028