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# EVOLUTIONARY TRENDS OF FORMS OF ORGANIZATION OF ECONOMIC SITUATIONAL INFORMATION AND THEIR INFORMATICS ACHIEVEMENT UNITS

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***Abstract***

*This article highlights and elucidates the varieties of forms and methods of organizing economic information with informative predestination in the units of the unitary management system and their informatics processing subsystem environments. The evolution of these forms (units) and methods is revealed and analyzed. The trends of their evolution are specified and characterized. On this basis, the necessity and the concept of the elaboration and working of the integrated form of information organization have been founded and formulated in the version of the Unitary Information Informative Fund of the Economic Organization Unit ($U.I_{l}.I_{v}.F.E.O.U.$). From the positions of unit and interconnection, at the level of information system of the economic organizational unit and its constituents, the specifics of the establishment and functioning of the modern internal informatics unit of all the organizational and functional processes of this Fund in the form of Automated Economic Informative Data Bank ($A_{t}.E.I_{v}.D.B_{n}.$) is elucidated.*

***Keywords****: varieties, forms, methods, organization, evolution, trends, informatics data management units, Unitary Information Informative Fund of the Economic Organization Unit ($U.I_{l}.I_{v}.F.E.O.U.$), Automated Economic Informative Data Bank ($A_{t}.E.I_{v}.D.B_{n}.$)*

## 1. Introduction

The existing system of economic management is characterized by spatial isolation and discreet evolution of material (manufacturing, distribution (commercialization), and consumption) and informational (informative, decisional) processes, which in a virtual and analogous interpretation form a single whole. This explains the multiple disparities between these two categories of activities (material, informational), the breaking of the managerial system by management levels (bodies) (primary, intermediate, superior), operational periods (operative, current, prognostic) and the information system into subsystems, complex and particular problems [1, pp. 43-46; 3, pp. 29-33; 5, p. 39].

Such a situation has led to the most expressive influence, especially at the intermediate and higher management levels, of the decisive role of the subject on the material and spiritual events of the human society on the whole, of its each division and even of the individual. Conditions have been created favouring the prevailing negative tendentious impact of the managerial system on the managed object (process), as well as the predominance of application of administrative methods and tools practically in any space and management moment.

From unitary positions, all these moments, with prevalence, are caused by the inadequacy of the performance level of the management subsystem compared to the managed by it subsystem. The

formation of the mentioned breaking off has occurred at the same time with the establishment of the social character of the human material activities, as a consequence of the scarce qualitative information.

The analysis of the progress of these two constituents of the unitary process of economic management revealing in transparence the objective going, but unperceived by the subject so far, towards the elimination of their territorial isolation and discrete function. At present and since the beginning of the socialization of the subject's activities, such advancement is observed and accomplished through the invention, elaboration and application of various technical and programmed means, technological methods, etc., considered as informatics resources.

By drawing a parallel between the development of the elucidated resources, it becomes noticeable that the above mentioned resources have advanced significantly, while, from the point of view of the full inclusion of the information phenomenon as an integral unit, their application in the economic informative and decisional fields is insufficient. In this sense, satisfactory coverage is certifying by informatics means and methods only of the transformative stage of the information - the processing (information, structural, calculation) stage, the other two stages – the initial one (of the formation of the primary and intermediate information values) and the use (analysis of information products and on the basis of the results of this analysis – the wording of the decisions) being mainly carried out manually by the subject.

As a result, there has been a substantial disagreement between the levels of performance of the informatics methods and means and of their field of application. This situation can be qualified as unpreparedness of the information resources regarding the involvement of nominated resources in their processing. The created circumstances are caused by spatial expansion and an unimaginable speed of achieving human material preoccupations. This is recognized by the evolutionary formulation of the concept of globalization of the activities in question, objectively being pushed by the imperative of material and information integration. In other words, material globalization has provoked and cannot be achieved and operated without informational globalization.

It is worth mentioning that, at the moment and permanently, the listed above informatics resources are fairly and reasonably considered to be decisive in the data processing. However, the suitability of structuring and organizing information resources, their processing and functional interconnections (serving their management functions) is not less valuable for this processing. The consecutive achievement of these two categories of interconnections, starting with each problem and ending with the information system, ensures the continuity of all information processes. If continuity is supported by technical means and methods, it becomes automatic. Hence, not only informatics factors, but also the area itself - information resources, through their rational structural interconnections, efficient organization and processing, directly contribute to their machine processing. Therefore, of the decisive importance in supporting of the automatic functioning of the integrated economic management system disposing the identification, observance, bringing into operation and guaranteeing the technical functioning of any variety of interconnections and interactions within the nominated system [1, pp. 37-42; 3, pp. 25-29; 5, pp. 39-40].

Ensuring the automatic functioning of concerned interconnections and interactions requires the elaboration and primordial implementation of certain forms (units) of organizational and dynamic processing of situational information (of informative content) that reflect the situation of the object (process) in a space, at a given moment or in both parameters.

Supporting the existence and evolution of these forms requires the harmonizing of their managerial and informatics aspects. For this reason, fairly it soliciting to formulate and clarify the concepts of two suitable harmonized forms (units) of organization and processing of economic situational information, one of which is adapted to the conditions of the unitary management system and the other - to the conditions of the informatics subsystem of this system, which guarantees automatic functioning. The first can be fulfilled as a Unitary Information Informative Fund of the Economic Organizational Unit ($U.I_{l}.I_{v}.F.E.O.U.$) [1, pp. 37-42; 2, pp. 307-323; 3, pp. 154-157; 4, pp. 55-60; 6, pp. 189-198] and the second one – as an Automated Economic Informative Data Bank ($A_{t}.E.I_{v}.D.B_{n}.$) of this unit (E.O.U.) [1, pp. 242-257; 2, pp. 208-216; 3, pp. 157-163].

## 2. Degree of problem investigation and purpose of research

From the positions of elucidation of the informational phenomenon within the integrated economic management system of analogous action, one can observe the absolute abandon of the topic of this article. This situation is formed by the evidently disagreement of the level of development of various informatics resources. Of the three stages of the unitary economic information process (organization, structuring, processing) special attention is given to the last of the listed ones. As a result, in most cases, both in the managerial and in the informatics environment a method of organizing information is used only - the successive one, especially in the entourage of the management system. Occasionally, the other three ways of data organizing (successive-indexed, regional and direct) can be involved in cases where they are incorporated into the programmed product.

In the created situation, the organization of the economic information resources in the form of separate files, elaborated and massivelly implemented in the 70's of the last century, is favoured. At the same time, the progress of performance of managerial and material economic activities, the informatics means and methods impose the invention and using on a large scala of integrated organization proceedings of information.

The guidance of this approach at any stage of creation and working of economic information and informatics systems directly contributes to the rationalization of data processing technology (informational, structural and calculation), significant increase of the speed of this processing, and the saving of resources. In this sense, the obtaining of consistent results requires the formulation of the concept of constitution, putting into function and daily application of certain concordant forms (units) of integrated organization achieving of information at the level of problem, complex, subsystem and informative issues system. At present and in the foreseeable future, the existing conditions of the management system of the material economic unit (enterprise, organization) dictate the integrated organization of information in the form of Unitary Information Informative Fund of the Economic Organizational Unit ($U.I_{l}.I_{v}.F.E.O.U.$), but its informatics achievement is necessary to be produced in the form of Automated Bank of Economic Informative Data of the Economic Organizational Unit ($A_{t}.B_{n}.E.I_{v}.D.E.O.U.$).

## 3. Applied methods and materials

Research on the issues of elaboration and daily working of the forms (units) of organization and processing of information of the economic unitary integrated management system was conducted

taking into account the fundamental theses of the theory, analysis and synthesis of the methods for organizing the information in the management system and its informatics subsystem. Also, the basic principles of managerial theory, system theory and system analysis, crowd theory, theory of the economic informatics and cybernetics, theory of projection and functioning of the economic informatics systems, etc., were taken into account in the investigations.

The basis of the investigations and the concluding of their results are the scientific publications related to the informational processes in general and the economic informational processes, in particular, economic informatics systems, information management and domains adjacent to these specialties. In the same context, the materials related to the formulation and implementation of the projection decisions regarding the constitution and daily functioning of the informatics systems in the social-economic units, the results of the university scientific activities, the normative and legislative acts of the Republic of Moldova in the managerial and informational domains, and the results of the author's own investigations have been taken into consideration.

## 4. The obtained results and discussions

### 4.1. The Unitary Economic Informative Fund (U.E.I$_v$.F.) - the efficient form of functional integrated organization of situational information in the environment of unitary economic financial administration system

The concretization of the semantic (sense) content of information is carried out through its functional predestination (the pragmatic aspect). Both this predestination and the significant increase in the volume and compositional complexity, structural variety have objectively contributed to the specification of the information in diverse varieties.

Subsequently, each variety of information has developed quantitatively and qualitatively. These circumstances and reasons have led to the need to highlight and form certain structural information units, which allow for the as efficient organization of information resources.

In this regard, the organization of economic information (E.I$_f$.) has evolved through a series of evolutionary stages and forms of organization of its functioning, the main ones of which are the following (in order of their evolution) [1, pp. 277-282]:

1) organizational forms based on elementary information units in the form of communications, peculiar indicators;
2) organizational forms based on separate (autonomous, stray) informational massifs;
3) organizational forms based on information collections, which include not only attributes, communications and indicators, but also informative massifs;
4) organizational forms based on the principles of organizing informational supports (document indexes, card indexes, reels index, disk index, floppy disk index, library of CD, DVD, STICKS).

Most of these forms are characterized by the dispersion of information units in space and time; therefore, they were mainly formed, processed and used separately, and not organized, without taking into account the systemic character and, therefore, interconnected of economic informational informative components.

Gradually, however, made to the measure of increase of the volume and complication of the composition of economic material activities, grace the intensification of the mutual relations

between the various subdivisions and economic agents, the necessity of creating and realizing an integrated unitary information nucleus appeared, which is nothing more than the unitary economic informational informative fund (U.E.$I_l$.$I_v$.F.) of the economic unit (E.U.).

In this fund, all initial informational informative units, which refer to the entirely managed object and any of its components, are accumulated for the purpose of their processing, keeping and subsequent offering. In addition, this fund is also concerned with the harming of different varieties of derivative information, necessary to make concrete managerial decisions.Thus, U.E.$I_l$.$I_v$.F. fundamental predestination is providing with data any processes of organizing (storing), transforming and using of real information.

The fact that the information fund is unitary does not mean that its organization and operation is carried out in a centralized manner. Even in this case, in general, the processing and use of information takes place in a distributed way, because the economic management system has a lot of managerial levels and their objects, spatially dispersed and temporally discrete.

Need for U.E.$I_l$.$I_v$.F. due to the following basic factors [1, pp. 97-103; 2, pp. 307-309; 4, pp. 57-59]:

1) the change in the functional content of the environment of economic activities, which consists in the fact that an increase in the volume, varieties and efficiency of the latter leads to the improvement in the form of their realization, with the solving of a new, more efficient management system. In turn, the new management system calls for a new form of information resources organization. Just as economic activities require coordination in space and time, they must be done in a unitary concept. For this reason, from an organizational point of view, they are interpreted as a whole in the interconnection.
   Because the system of economic material activities takes the form of a unitary interconnected body, respectively the informational resources that describe and permanently accompany them, must be organized in the form of such a unit, which would also ensure the connection of the information elements based on a unitary concept. The implementation of this organizational informational unit has found its expression in the form of unitary informational informative fund (U.$I_l$.$I_v$.F.) [1, pp. 223-232; 3, pp. 177-192].
2) the constitution of this fund contributes to the determination of the most rational composition and appropriate structures of the managed object. This is due to the fact that the organization of this fund is inconceivable without the identification of all the information units and the connections between them, with their unified coordination and regulation for the purpose of qualitative and timely service with necessary data of the decision making activities;
3) the perception of U.$I_l$.$I_v$.F. as a unitary object conditioning the elaboration of an adequate and flexible managed logical system of information;
4) being the informational model of the managed object, U.$I_l$.$I_v$.F. ensures the authenticity, completeness, opportunity of the system of information and, hence, the increase of the quality level of the informational resources of the integrated unitary system of economic management;
5) the organization of an information system based on the concept of U.$I_l$.$I_v$.F. also leads to the saving of memory storage space, since in this variant any duplication of information units and connections between them is practically excluded;

6) U.$I_l$.$I_v$.F. also contributes to saving time and reducing other consumption associated with the recording, storing and transforming information, so as the values of informational units are usually recorded only once on the memory;
7) automatic accomplishment of informational connections of economic issues within U.$I_l$.$I_v$.F. of E.U. contributes to the maximum automation of data processing and ensuring with information of the management process. This is explained by the fact that, from an information point of view, an issue arises from another. In this way, the results of solving a problem can be used to solve other problems and so on;
8) the application of the U.$I_l$.$I_v$.F. concept significantly improves the technology of data organizing and processing, turning them into a continuous automated unitary process;
9) as U.$I_l$.$I_v$.F. informationally links all the issues into a single unitary complex, it indirectly contributes to the full automation of the management system.

Starting from the above, it can be concluded that U.$I_l$.$I_v$.F. is considered an virtual (conceptual) external unitary organizational form that is predestined for organizing and providing any information for the management system, as a whole, and for any of its components.

Initially, and at present, information resources in the form of U.$I_l$.$I_v$.F., which require permanent storage in the informatics memory, are partially organized. So, the U.$I_l$.$I_v$.F. performance area in the practice of economic information activities includes only a part of the relatively constant data and does not refer at all to the variable ones, which are daily recorded, organized and processed. Because of this, variable information in terms of volume is extremely significant compared to constant information.

This assertion is aimed at highlighting the level of theoretical treatment and practical realization of U.$I_l$.$I_v$.F. and establishing that we are currently at the initial stage in this field. Therefore, reference will be made to their functional aspect within the economic management system regarding the composition and content of U.$I_l$.$I_v$.F. of economic unit (E.U.). The created situation regarding the constitution and working of U.$I_l$.$I_v$.F. is also explained by the fact that until now the unitary system of economic information for the economic unit has not been elaborated, and the functional informational links of internal and external character are not highlighted fully and genuinely.

At the same time, even the organization of a relatively constant part of information in the form of U.$I_l$.$I_v$.F. is advantageous, as it leads to the reduction of time, space, and other resources associated with the data input, processing, and previously enumerated and characterized factors.

The elaboration of U.$I_l$.$I_v$.F. soliciting the solution of multiple groups of issues, including the following [1, pp. 124-128; 6, pp. 193-198]:

1) determining the composition and number of issues, problem complexes and informative subsystems that need to be solved with the help of the economic informatics system (E.$I_c$.S.), their filtering and distributing among economic management levels;
2) selecting of the logical structure of U.$I_l$.$I_v$.F. and its components. Considering that this fund is a totality of data files, it is necessary to select and determine an optimal composition and number of data elements that would provide information that would fully satisfy the solution of all the issues of the E.$I_c$.S. and its subdivisions;
3) correlating of the informational and technological aspects of automatic data processing;
4) elaborating of database logical scheme, what including such works, how are, the selecting and determining of comprise in composition of it content of the data elements ensemble,

establishing between them of the semantic (of sense, content) relations, making evident of diverse types of data structures and between its correlations, determining of the composition of this structures.

Also, on the route of constitution of U.$I_l$.$I_v$.F. is necessary it be solved the issue of doubling of what itself including in the files data values. In such context the must thrifty and rational elaborated it is thought the U.$I_l$.$I_v$.F., in what the data redundance is totally excluded, what directing at the maximum simplification of the data files correction, but, in the same time, arousing the dificults of the processes of elaboration and functioning of the programmed and technological resources of E.$I_c$.S. If in U.$I_l$.$I_v$.F. of E.U. between it files insignificant redundancy and poor connection itself admitted, then must it being foreseed the rational and efficient system of data actualization.

The process of U.$I_l$.$I_v$.F. of E.U. elaboration, by virtute of the latter's importance, is iterative in fact for the constitution of E.$I_c$.S. This is explained by the fact that, depending on the obtained results at the functional projection stage (detail, operation) of E.$I_c$.S. or experimental exploitation and comparison of these results with the expected ones, in some cases it is necessary to return to the previously achieved stages (works already fulfilled) in order to specify some materials or to revise some decisions regarding the composition and structure of the Fund.

Everything that has been elucidated abundantly confirms that at present and in the foreseeable future the full creation of economic unitary management system (E.U.I.M.S.) presents an extremely complex and difficult issue to realize. However, the concept of this system, as well as its systemic approach with the inclusion of all possible components should be permanent in sight.

Until now, the economic informational informative fund of the economic unit (E.$I_l$ .$I_v$.F.E.U.) is considered to be one of the most efficient and rational forms of organizing the informative components of E.U.I.M.S.

Regarding the prospects of the forms of integrated data organization on the informatics support space, one can expect that the most efficient one would be the one that automatically ensure the collection, distribution, storage and provision of necessary information at any time for the purpose of establishing, formulating and making decisions contributing to the desired evolution of a managed object (process).

Thus, the forms considered, by the rational distribution of the necessary data on the informatics memory space, will ultimately facilitate the storage, protection and execution of all procedural methods and operations, but especially those of recovering. Rationalization of the organization is motivated by the specific goals of using (involving) data jointly for the purpose of processing and application in the processes of solving both informative and decision-making issues. In turn, this will ultimately affect the results of human material and spiritual activities, thereby affecting their volumes and quality.

### 4.2. Automated Economic Informative Data Bank ($A_t$.E.$I_v$.D.$B_n$.) - the unit of timely informatics achievement of the Unitary Economic Informative Fund (U.E.$I_v$.F.)

Unlike other forms of organization and accomplishment of economic informational informative resourcess (E.$I_l$.$I_v$.R.), $A_t$.E.$I_v$.D.$B_n$. is characterized by pronounced complexity, constant

continuity of their evolution, exaggerated volumes and specific content of activities both at the constitution stage and at the working (exploitation) stage of this system. Such features are becoming more and more obvious and valuable (ponderable) once with the accomplishment of an increasing number of economic information sectors and subsystems of economic information ($E.I_f.$), which requires the achievement of new works, related to data organization and processing.

Starting from this findings, as well as on the basis of accumulated experience and existent theoretical elaborations in examined domain, can be highlighted and formulated the fundamental specific features regards the projection, implementation and working of $A_t.E.I_v.D.B_n$. within the framework of the managerial processes of economic objects of any nature (material, organizational) and any management level [1, pp. 242-251; 2, pp. 213-216].

The first and most crucial difference between $A_t.E.I_v.D.B_n$ projection (elaboration) is that such a bank should be created on the basis of the principle of systemic approach to this activity. The need to apply this principle is justified not only by the exaggerated volumes, the complexity of the composition of economic information and the work carried out on them, but, first of all, by the stringent organic interconnections between various functional information units. Such interconnections can be of three basic categories - information (structural), processing (transformational) and use. The considered parameters (volume, composition, procedures, operations, connections, etc.) show the need to systematize and structure all the initial economic indicators (primary and intermediary) in the form of various functional organizational units. Thus, itself the nature of economic information provokes the need for its study, organization, processing and use based on the systemic principles.

The practice and theory of economic information activities has confirmed many times that the efficiency of economic management directly depends on the quality of belonged to it $E.I_l.I_v.R.$ This is especially evident in the context of a market economy, which is characterized by an ever-increasing intensification of horizontal (direct) connections between economic agents. As a consequence of this intensification there is an increase in the volume and complexity of the composition and structure of economic information. At the same time, more and more stringent quality requirements are imposed given on them. As mentioned above, such requirements are mainly reduced to the observance and maintenance of a certain level of authenticity, analyticity, opportunity and completeness of the information that forms the basis for formulating, founding and taking of the decisions.

The examined conditions, as well as the availability of the respective informatics system, making up the main pre-requisites for the organization and implementation of information resources ($I_l.R.$) in the informatics environment. The evolution of such a category as $I_l.R.$ (informatics) identifies two stages of their organization and achievement. For the first of them such resources were organized in the form (in principle) of local (separated) data files. The essence of this form is that the data were organized in autonomous files for each solved problem, without taking into account the informational connections between issues. In such a situation, the programmer has fully elaborated not only the applicative program for data processing, but also the organization of the latter (data) on the computer's memory, thereby ensuring the maximum (extreme) efficiency of each program (promptness of the problem solution). That's why the programmer manually performed all the work related to scheduling the placement of data involved in the process of solving a concrete issue.

At this stage the organization of $I_l$.R. in the form of separate data files has occurred because, at that time, the electronic computing machines (E.C.M.) had external memory "capable" of data organizing data only by successive (sequential) method (usually, on magnetic tapes) and itself the elaboration of the application programs was done manually in machine codes (machine commands (instructions)). In connection with this, the programmer had to showing (write) in each command not only the code of the data processing procedure (operation), but also the numbers of memory cells, in which the initial data and the results of their processing were obtained as a consequence of achievement of the coding procedure (operation).

In this case, each specific application program was quite efficient in terms of using the processor's time (arithmetic device), since $I_l$.R. of each solved problem were prepared (organized) on the computer's memory in the required version of their presentation (involvement). Moreover, the organizational (informational, structural) procedures were performed from outside (outside E.C.M.) manually or by means of specialized machines and devices - specialized perforation machines, data transcription devices on some technical supports, etc. For these reasons, the processor was engaged exclusively in data processing during the process of solving the problem. However, into such circumstances, the overall efficiency of the information system as a whole, influenced by a number of other factors, was not taken into consideration.

In addition to the above mentioned, the analyzed approach regarding data organizing has led to excessive duplication of the same data on the environment of informatics memory. Practically, in the worst case, the number and volume of recorded files were predetermined by the number of problems in which they were involved. That's why the same data was fixed on the memory space multiple times, and the fact that the programmer was also concerned about the physical location of the data led to the most insignificant corrections of their organization in the physical domain (for example, changing an address - memory cell number) provoke the need for manual writing of the applicative program as a whole. In this regard, the volume and composition of a fully elaborated applicative program depended on the physical data organization. In this sense, there are assertions that the achievement of $I_l$.R. at this stage, because of the examined reason (correction (changing) of data location), on average about 50% of the initially elaborated applicative programs requested revision and again transcribed.

The created circumstances, the interconnected character of information relations in the economy, as well as a higher level of evolution of the informatics system, especially its memory space, are contributed to the need to elaboration and use a new concept of organization and accomplishment of E.$I_l$.$I_v$.R., which resides in the application of the integrate approach to the identified problems, according to which the data are considered a multiple times used resource and for various functional purposes.

The study and interpretation of the economic information from the positions of the interconnections of their information units constitute the essence of the second stage of evolution of $I_l$.R. organization as data (in the informatics environment) [1, pp. 242-250; 2, pp. 314-323].

From those mentioned before it becomes obvious that both the external (functional) and internal (informatics) aspects of E.$I_l$.$I_v$.R. organization cannot be interpreted in any other way except by taking into account the interconnections of their constituents - information units. In such a situation, it is necessary to perform various activities on the projection, implementation and

working of $A_t.D.B_n.$, based on the principle of a systemic approach. Nevertheless, it is decisive to carry out the projection from the systemic positions, since the implementation and functioning are its derivatives (interfaces) through which itself achieving the elaborated decisions of projection.

To be reminded once again that the concept of $A_t.E.I_v.D.B_n.$ achieves the objectively existing information interconnections at all stages of economic data processing and on this imaginary basis the so-called "immersion" of the information system in the physical informatics environment takes place. Therefore, economic information needs to be organized systemically (interconnected, integrated) not only in the management system of the managed object (process), but also within the technical informatics space.

At the same time, the projection activities will have an consciously and scientifically founded in the case when the $A_t.D.B_n.$ designers preliminary know the role and place of this bank within the automated economic management system ($A_t.E.M_g.S.$). In this sense, firstly, it is necessary to find that these two parameters (the place and role of $A_t.D.B_n.$) depend to a large extent on the dimensions of the ray and volumes of the initial works performed by the information and informatics systems, as well as the management system. For this purpose, the evolution of these characteristics can be presented in the form of the following analytical schemes (Figure 1) [1, pp. 246- 251; 3, pp. 195-199]:

**a) $[M_g.S. [A_z.M_g.S. [I_l.S. [I_c.S. [A_t.D.B_n.]]]]]$**
**b) $[M_g.S.[A_z.M_g.S. [I_c.S. [A_t.D.B_n.]]]]$**
**c) $[M_g.S.[A_z.M_g.S. [A_t.I_g.D.B_n.]]]$**
**d) $[M_g.S. [A_t.I_g.D.B_n.]]$**

**Figure 1. Evolution of the $A_t.D.B_n$ place and role in the economic management system ($E.M_g.S.$):**

**a)** $A_t.D.B_n.$ covers only one part of the solved problems within $E.I_c.S.$ and partially fulfils certain procedures of such a system; **b)** $A_t.D.B_n.$ performs all the procedures and operations of the data processing and solves all the informative problems of $E.I_c.S.$, but $E.I_c.S.$ does not include all the problems of the economic information system ($E.I_l.S.$); **c)** $A_t.D.B_n.$ performs all procedures and operations of data processing and solves all the information problems of $E.I_c.S.$, the latter covering all informative issues of $E.I_c.S.$; **d)** $A_t.D.B_n.$ evolves in an automatized intelligent data bank ($A_t.I_g.D.B_n.$), as it does not achieve only the informative compartment of the automated economic management system ($A_t.E.M_g.S.$), but also its decisional compartment: forming, formulating, taking and making management decisions.

From Figure 1 it is obvious that, at the first stage, $A_t.D.B_n.$ performs only some processing data procedures (in that case, the data base management system ($D.B_s.M_g.S.$) was considered of open type and performed only the procedures of data entry (recording, placing), correction, extraction (transcription, printing, showing) of data from the informatics memory; $D.B_s.M_g.S.$ was a separate compartment of the basic algorithmic language or some of their problems and procedures, and their complexes (in this case the $D.B_s.Mg.S.$ is autonomous, closed, and in addition to the above, it performs all basic information and structural procedures, as well as calculus operations, because of this, the need for a basic algorithmic language decays as $D.B_s.M_g.S.$ has a quite complete and developed complex of linguistic means, which allow the automatic fulfilment of any category of data processing). At the second stage, (b) $A_t.D.B_n.$ is equivalent to the economic informatics

system ($E.I_c.S.$) on the grounds that all $I_l.R.$ are organized as a unitary database ($D.B_s.$), but $E.I_c.S.$ does not cover all the content of the information system. If $D.B_n.$ completely manipulates this content, then it can be considered as $A_t.D.B_n.$ of the managed object on the whole (the third step - (c)). Finally, in the variant, when not only the informative (descriptive) processes are done automatically, but also the activities of analysing the results of these processes, substantiating, taking and fulfilling the managerial decisions, one can find out the $A_t.I_v.D.B_n.$ evolution in automated intelligent data bank – $A_t.I_g.D.B_n.$ (the fourth step - (d)) [1, pp. 251-283; 7, pp. 89-96].

As the management system ($M_g.S.$) includes in its composition not only information processes, formulation and decision making, but also material activities (the managed object itself), as seen from Figure 1, this system is present and will be permanently included in any analytical scheme.

Starting from the elucidated in this context moments, it can be stated that $A_t.D.B_n.$ can be achieved as a separate compartment of $I_c.S.$ or as an independent projected object, in the created situation. On the basis of the above elucidated, in the last case $A_t.D.B_n.$ must accomplish all processes, procedures and operations of the existing $I_l.S$, as $I_l.S.$ is fully organized in the form of $A_t.D.B_n.$ In perspective (see same Figure 1, pp. c.), d)) $A_t.I_v.D.B_n.$ itself will turn into $A_t.I_g.D.B_n.$ and respectively will radically evolve the composition and order of performing of the projection, implementation and working activities of the material object management system.

For the present, it would be rational as the works of constitution of $A_t.M_g.S.$ it being coordinated both in content and deadlines with the works related to $E.I_c.S.$ projection, and in the framework of $I_c.S.$, unlike other forms of $I_l.R.$ organization, it is necessary to ensure the preliminary effectuation of the projection of $A_t.D,B_n.$ These preliminary actions are justified by the fact that the constitution of $A_t.D.B_n.$ requires the study and analysis of $E.I_l.R.$ from the system positions, while the concept of separate files does not provide for such an approach. That is why it is necessary, firstly, to identify, analyze and build the informational connections between the solved problems in $A_t.D.B_n.$, and to apply other principles of approach for other issues. However, in the case of necessary posibilities, it would be more advisable to establish all informational connections one's own for all the solved issues. In such variant the $E.I_l.R.$ would be prepared for accomplishment in the environment of any $E.I_c.S.$, leaving unfulfilled only the works of $E.I_l.R.$ adaptation to the conditions of a new informatics system for their achievement. Obviously, such a variant contributes to the simplification of the successive works on the constitution of $E.I_l.R.$ associated with the elaboration, implementation and functioning of the other categories of $E.I_c.S.$ resources. It also reduces the time of elaborations and saves other resources. Even and without of the environment of $A_t.D.B_n.$ and any $E.I_c.S.$ such works contributes to arranging of the organization and rational structuring of the system of information. The clarified reasons itself require the highlighting, study and organization of $E.I_l.R.$ in such a way that the information system is of consciousness character and is projected in accordance with one of the most convenient variants, which would ensure the clarity and flexibility of information resources and the reliability of the other resources, respectively.

Therefore, it is also necessary to keep in mind that the programmed means of $A_t.D.B_n.$ are of a systemic character, which facilitates the elaboration of the programmed resources for the concrete information system and contributes to the essential automation of the programming processes.

Significant is also the fact that if $E.I_c.S.$ and $A_z.M_g.S.$ can be projected in one phase (general-functional) or maximum in two to three phases (pre-projection, general, functional), then $A_t.D.B_n$

itself elaborating in several phases. This situation is motivated by the pronounced dynamic nature, complexity of the construction (composition, structure) and exaggerated volumes of the relevant works.

In some bibliographic sources it suggesting as the $A_t.D.B_n.$ needs to be elaborated, implemented and exploited in seven phases, consisting of sixteen stages. Thus, at the phase of pre-projection, in the opinion of the authors, it would be rational to realize the stages of the technico-economic substantiation of the need of elaboration of $A_t.D.B_n.$ and draft of the projection task; at the phase of the general (technical) projection - the stages of the database ($D.B_s.$) projection, the projection of external and internal information resources that constitute the informational aspect of $A_t.D.B_n.$; the stages of the elaboration of mathematical and software resources - programming aspect of $A_t.D.B_n$; the stages of calculating the needs for technical means and resources for the informatics system - the technical aspect of $A_t.D.B_n.$; the stages of training, learning and activity of $A_t.D.B_n.$ staff and end users - the organizational aspect of this bank; the stages of consumption and economic efficiency of projection decisions - the economic aspect of $A_t.D.B_n.$; at the projection phase of daily working of $A_t.D.B_n.$ (of detail and of functioning projection) - stages of generating $D.B_s.$ schemas and subschemas, of elaboration of their own programmed means (resources) (originals, of users), of elaboration of technological and working documentation; at the bringing into operation phase of $A_t.D.B_n$ - the stages of the introduction in exploitation, of experimental (trial) functioning and offering in exploatation of the system; at the phase of daily working - the stages of ensuring of the reliable functioning of $A_t.D.B_n.$, of analyzing of the efficiency of its activity and its performance and development in perspective.

From the above listed activities, it can be seen that, compared with $E.I_c.S.$, the constitution of $A_t.E.I_v.D.B_n.$ is related not only to the phases of the itself projection, but also to the phases of its implementation and working. In addition, at each phase the composition of the stages and the content of their works are significantly different, specifically expressed and with exaggerated volumes. For this reason the application of $A_t.D.B_n.$ concept decisively influences the elaboration and functioning of the $E.I_c.S.$ ($A_t.E.M_g.S.$) subsystems., especially their resources (informational, mathematical, programmed, technological, etc.). This influence refers not only to the composition and order (sequence) of the achievement of such works, but also to their content. For example, in the case of the projection of information resources, it is necessary to elaborate not only such external resources, but also to elaborate the information models, data models, and internal resources. New works with new content are also carried out in other subsystems.

From the scientific point of view, it is necessary to constantly take into account the trend of gradual (evolutionary) transformation of $A_t.E.I_v.D.B_n.$ in a closed (autonomous) system and intelligent economic data bank ($A_t.E.I_g.D.B_n.$).

Thus, based on what has been explained from the beginning to the present, the following main conclusions can be made regarding the particularities of the constitution and operation of $A_t.E.I_v.D.B_n.$ [1, pp. 250-269]:

1) projection, implementation and working of $A_t.E.I_v.D.B_n.$ carrying a systemic character and, to a great extent, are of preliminary order, and therefore they should be carried out on a scientific basis;
2) before the elaboration and implementation of $A_t.E.I_v.D.B_n.$ it is important to clarify and define its role and place in the $E.I_c.S.$ and $A_t.E.M_g.S.$, which, to a great extent, depend of

the volume and coverage range of the previously performed works within E.Ic.S. and $A_t$.E.$M_g$.S.;

3) $A_t$.E.$I_v$.D.$B_n$. can be elaborated as an independent projected object or an indispensable compartment of E.$I_c$.S. ($A_t$.E.$M_g$.S.);
4) the associated works with the constitution of $A_t$.E.$M_g$.S. must be agreed upon in terms of content, order (sequence) and deadlines of E.Ic.S. elaboration, and within E.$I_c$.S. - to provide anticipated (preliminary) performance of projection works of $A_t$.E.$I_v$.D.$B_n$. compared with other subsystems of E.$I_c$.S.;
5) constitution and working of $A_t$.E.$I_v$.D.$B_n$. it based on standardized system programmed tools;
6) if E.$I_c$.S. and $A_t$.E.$M_g$.S. can be elaborated in a single phase of projection (general-detailed) or maximum in two phases (general, detailed), then it is necessary to elaborate $A_t$.E.$I_v$.D.$B_n$. in a considerably more number of phases, because of its expressed dynamically nature, complex composition and exaggerated volumes of the relevant works;
7) in its turn, each phase includes a more much variety of stages, and the content of the performed at each stage works is essentially specific and of considerable volumes;
8) application of the $A_t$.D.$B_n$ concept significantly and decisive influences the projection and working of the E.$I_c$.S.($A_t$.E.$M_g$.S.) subsystems;
9) during of the elaboration and working of the $A_t$.E.$I_v$.D.$B_n$. it is necessary to constantly keep in mind the perspective of them gradual transformation into closed systems and $A_t$.E.$I_g$.D.$B_n$.

E.$I_l$.R. constitution and functioning under such an organizational informatics unit as $A_t$.E.$I_v$.D.$B_n$., taking into account the identified features, will contribute to improving the efficiency of the economic management system and consequently - at bettering of the results of the social-economic units activities of material nature.

## 5. Conclusions

1. Despite the fact that the existing system of economic management in a virtual interpretation forms a whole, in fact, from integrated unitary positions, it is spatially isolated and temporally-discreet, which creates conditions for the decisive negative influence of the subjective factor on the course of human material economic activities.
2. Outrunning of this situation, which took place once with the socialization of the nominated activities, has occurred and is carried out through the creation and application of various informatics resources, especially the technical, mathematical, programmed and at relatively level - the technological.
3. If the listed resources have somewhat advanced, then their field of application, in this present case - the economic management information system, turned out to be "unprepared" to be organised and work in conditions of its entire informatics achievement.
4. As a result, because of insufficient investigations and minor practical achievements, it registering an important backwardness of the information domain in relation to the other informatics resources, and also to the material domain.
5. On the route, it was realized that not only the technique, the programming, etc., but also the information resources, through its rational structuring, efficient organization and processing,

contribute to the elimination of this discrepancy through the integral informatics accomplishment of the economic management integrated system.

6. Starting from the fact that informational a managerial problem arises from another one, a complex or subsystem of issues – also are informational conditioned from another one, by highlighting and the full informatics achieving of the interconnections and interactions between them, a management system can be elaborated and put into analogous working, which includes in pressing and direct interconnection and interaction all the material and information processes, thereby forming an automated material - informational nucleus.
7. In such objective conditions it is necessary to single out, analyse and select the most rational and effective possible sequences of information resources ensurance of the solving processes of each problem in each complex of problems, each complex - within the framework of each subsystem, and each subsystem – within the framework of integrated unitary problems system.
8. The composition of variants of informational interconnections and interactions between management components is objectively required by two circumstances: the managed object (process), for the first time is implemented or is already functioning.
9. The unitary integrated achievement of such interconnections and interactions has found its expression in the form of a unitary information informative fund of the economic unit (enterprise, association, sub-branch, branch, national economy of the country).
10. The efficient elaboration, implementation and working of the given fund advancing an rather complicated and bulky groups of problems.
11. Currently and in the near future, its full constitution presents an extremely complex and difficult issue of to being translated into life. However, the conception of this system, as well as its systemic approach to inclusion of all components, should be taken into account.
12. The prospect of the forms of data integrated organizing and processing in the informatics environment shows that the best option would be that what would automatically collect, distribute, store and provide with the necessary information at any time in order to establish, formulate and make decisions that contribute to the long-expected evolution of the managed object (process).

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***Rezumat***

*În articol sunt evidențiate și elucidate varietățile formelor și procedeelor de organizare a informațiilor economice de predestinație informativă în mediile sistemului unitar de gestiune și subsistemul informatic de procesare a lor. Este dezvăluită și analizată evoluția lor. Sunt specificate și elucidate tendințele evoluției acestor forme și procedee de realizare a lor. În această bază este fondată necesitatea și propus conceptul elaborării și implementării formei integrate de organizare a informațiilor în variant de Fond Informațional Informativ Unitar al Unității Organizatorice Economice (F.$I_l$.$I_v$.U.U.O.E.). De pe poziții de unitate și interconexiune, la nivel de sistem informațional a unității economice și constituentele lui,sunt caracterizate specificul constituirii și funcționării unității moderne de realizare informatică internă a tuturor proceselor de organizare și funcționare a acestui Fond sub formă de Bancă Automatizată de Date Informative Economice ($B_n$.$A_z$.D.$I_v$.E) a U.O.E.*

***Cuvinte-cheie**: Varietăți, Forme, Metode, Organizare,Evoluție, Tendințe, Unități Rrealizare Gestională, Informatică, Fond Informațional Informativ Unitar al Unității Organizatorice Economice (F.$I_l$.$I_v$.U.U.O.E.), Bancă Automatizată de Date Informative Economice a Unității Organizatorice Economice ($B_n$.$A_z$.D.$I_v$.E.U.O.E.)*

***Аннотация***

*В статье выявлены и рассмотрены разновидности форм и методов организации экономической информации информативного предназначения в средах единой интегрированной системы управления и её информатической подсистемы процессирования названной информации. Раскрыта и анализирована их эволюция. Специфицированы и подвергнуты рассмотрению направления эволюции этих форм и методов их реализации. Обоснована необходимость и сформулирована концепция разработки и реализации интегрированной формы организации информации в виде Единого Информационного Информативного Фонда Экономической Организационной Единицы (Е.$И_ц$.$И_в$.Ф.Э.О.Е.). С позиций единства и взаимосвязи, на уровне информационной системы названной экономической единицы и ее составных частей, раскрыта специфика создания и функционирования современной внутренней единицы информатической реализации всех процессов организации и функционирования рассматриваемого Фонда - Автоматизированного Банка Экономических Информативных Данных Экономической Организационной Единицы ($А_э$.$Б_н$.Э.$И_в$.Д.Э.О.Е.).*

***Ключевые слова:** разновидности, формы, методы, организация, эволюция, тенденции, единицы информатической реализации управления данными, Единый Информационный Информативный Фонд Экономической Организационной Единицы (Е.$И_ц$.$И_в$.Ф.Э.О.Е.), Автоматизированный Банк Экономических Информативных Данных Экономической Организационной Единицы ($А_э$.$Б_н$.Э.$И_в$.Д.Э.О.Е)*

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