INFORMATIONAL APPLICATION FOR THE SUPPORT OF OPERATIONAL MANAGEMENT

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The development of the informational and communicational technology makes possible the use of a diversity of systems, instruments and technologies that offer to the decisional factors sharp and safe informations and also proper ways to process and analyse those informations in order to achieve an efficient development of their activities. We chose the internet - for theoretic and also for practical reasons - as informational technology because it stays at the base of other informational, decisional and communicational technologies - the intranet, the extranet, the web, the e-commerce, the groupware etc. Among the practical reasons we mention: low costs, fast communications and the performances inside the office and in relation with other people, especially with the clients; the market's development and the easier acquisition and fusion processes.

Key words : the management's data base, the federative data base systems, the client/server architecture, the internet/intranet technology, the distributive application.

The perfection of the informational system of an organization is placed within a strategy of global improvement and durable of the organization’s performances. In approaching the general aspects of perfection of the informational system we start from two premises. On the one hand, the development according the levels, in order to formalize the new system in different hypostasis: contributions to the strategy of the company, the usage of administration rules, organizational states and technique, for which it is appealed to modern techniques of formalization, such as the conceptual models and logical models. On the other hand, the development according the phases, which allows a hierarchy of the decisions that are to be taken during the period of projection and operations of the new informational system. Thus there can be better dominated the risks (costs, terms of realization, influences over the employees implicated in this process) and effects induced by the new informational system over the company’s activities, among which: the efficacy of administering the problems that appear, the improvement of the registered performances, the amplification of the commercial impact and others. At the same time the double approach favors the assimilation of the new technological concepts (data basis oriented on the object, technology Internet), but also the evolution of the informational system, according the changes that intervene in the activity of the organization or in the environment in which it is integrated.

At present many organizations and professionals who realized the informational systems rethink the traditional way taking into account the new technologies, creating a diverse literature of specialty and sometimes controversial for the computer users and, starting from the requests of the organizations for more cheep practices of realization, more productive and faster. In the practice of elaborating the complex systems, among which those distributed, there are distinguished more methods of projection that make the object of referential classifications from the literature of specialty. Thus there can be distinguished methods
of the functional decomposition; methods of the data fluxes; methods oriented towards information or popularized data from the informational engineering of James Martin but also by the approach of the diagrams entity-relation of Chen; methods oriented on the object.

Since it appeared the necessity to write programs for the computer it was also felt the need for instruments of work that could automate and ease the work of programmers. Between these there are found also the CASE instruments that are capable to ensure the necessary support for one or more specific activities of the engineering of programming. Their usage shapes a methodology of later-day that combine the elements of success from the traditional methodologies with the requests of the informational society due to the possibilities of realizing an equilibrium between the organization’s requests, the technological opportunities and the risk associated with the inevitable substantial changes that appear frequently.

The interdependence of the data from the database imposes a federative approach of the database of the organization. The database of the organization is conceived as a federation of database connected functionally (according the organization’s functions) or by process (according the processes of leading on hierarchical levels). The main component of these federations is constituted by the operational database, because it represents the main source of data for the other database that, in fact, contain data resulted by the aggregation of the data from the operational database.

In the case of organizations dispersed on the territory the database work in federative systems open towards Intranet/Internet (fig.1).

The informational base contains the informational nucleus formed by the totality of attributions necessary for the processing of the informational system and the informational structure represented by entities between which there are established correspondences and connections.

The content of the informational base is determined according the variants of approach of the chosen general projection.

**Fig. 1 Federative systems open towards Intranet/Internet**

In the variant exits-entrance the content of the informational base is determined according the proposed objectives concretized in the situations of exit. The informational base will be constituted on the solicited exits and will be modified during the whole time of exploitation of the system in accordance with the dynamic of the phenomenon and the processes from the benefiting unit.
According to the situations of exit, it will be used the following procedure of determination of the necessary of entrance data: there will be followed all the information or variable elements from all the projected reports of exit, analyzing the way of obtaining each information; if it results from the calculation, it is identified the algorithms used until the primary operands, that are included in the informational base if they do not already exist, on the contrary, it is overtaken the multitude of entrance data.

The informational systems from the economic field presuppose the realization of some delimited objectives and founded in tight connection with the legislative-normative framework that imposes the nature of informational exits, reason for which in the majority of cases the determination of the content and structure of the informational base is done according the variant exits-entrances.

In the structuring of the informational base there must be taken into consideration the particularities of the technological processes, the requests for operative administration and for the management of enterprises. For this the entities will be grouped in collections of data that will satisfy the following basic conditions:

- to allow the access of the data for the operative activities;
- to allow the realization of synthesis and analysis reports;
- to offer the information for the level of management;
- to allow the transmission of tasks and the introduction of corrections.

In figure 2 is reproduced the conceptual scheme of the informational base.

**Figure 2 Conceptual scheme of the informational base**

*Primary data base* contains the files with the registration in real time of the primary data from the process. The period of life is according the pre-established periods of time; the deleting of the old information is realized automatically.
**Data base for technological analysis** is formed by the extraction from the primary data base of those files that contain the evolution in real time of the parameters and files which reproduce different phenomenon and incidents (signals, preventive and of alarm).

**Data storehouse for management**

From the primary data base, operative reports and the results of the technical analysis it will be built a storehouse of data designated for the level of technical and economic manager. The information extracted from this storehouse is presented in adequate forms (graphics, tables, diagrams) to the factors of decision and constitute a support for decisions and corrections.

Within the technological framework of the last years, which led the power of calculation to prices wide accessible, and the evolutions to open systems allow an almost total connectivity to any type of data sources and interoperability between the different platforms, it is questioned: the existent operational systems, the data can be accessed anywhere, the need for information is acute, and the power of calculation and storage is cheap. It is felt the need of a new paradigm: data storehouses.

The data storehouses represent an acute request of modern organizations (enterprises, banks or administration) and at the same time a technological relationship frequently put into practice. The current vision over the data storehouses is concentrated up on their role of informational base for the managerial decision, thus keeping a high level of generality and allowing to the multiple implementations to enter into the sphere of this notion.

So, the role of storehouses is that of offering an informational base for the foundation of managerial decisions. Likewise, the definition given by Bill Inmon is extremely concise: a data storehouse is a collection of data for the foundation of the process of making managerial decisions, oriented on the subject, integrated, variable in time and non-volatile.

From the pint of vie of the operational system, the analysis of incidents is qualitative and exhaustive, being realized individually, pursuing the registration realized during the incident and correlating the behavior of different elements. But managers are interested by a qualitative analysis, complex of the incidents, correlating their frequency and intensity in time with the variation of the rivers’ flow, the meteorological conditions, the hours of changing the shifts etc., in search of schemes of production of the incidents.

Within the data storehouses, the data is naturally set on hierarchies and sediments, according their semantic, on levels. Thus, for production there will be gathered all the data of process that will allow detailed analysis for each incident or phenomenon appeared during the period of detail pre-established. They are extremely useful for the discovering of defections before accidents are produced or for the deduction of the probabilities of some immediate defections, by the technical personnel especially trained.

Because the informational system of a company is in continuous interaction with the informational system of other companies or of other governmental institutions, it is imposed the necessity for correlating the own informational system with the informational systems of the others. Within this context the exits of an own informational system can constitute entrances in other informational systems, while the exits of other informational systems can be exits into the projected informational system.

These inter-conditions can be realized through the computers that will ensure the connection between associated data basis, between which it is realized the exchange of data.

The architecture client /server is constituted as a versatile infrastructure, based on messages and modular, that was born from the intention of improving the use, flexibility, interoperability and scaling of the software applications. The client is defined as a solicitor of services, and the server is defined as the supplier of services taking into account that one and the same station can be the client and also the server, according the software configuration. The client and the server communicate through message exchange. Any client / server system is composed of minimum three main components:

- the interface with the user (operation system environment / graphic)
- the application (the processing or the processes)
- the system of administration of data basis

In practice, there are more modalities of distributing the functions between the client and the server.
• *The model distributed interface.* The code afferent to the user interface is divided between the client platforms and the server, and the application and the SGBD are, both, resident on the server. It is the model of a classic architecture with a central host computer to which are coupled the passive terminals (the Romanian mini-computer systems INDEPENDENT, CORAL, the mini-systems PDP of the company DEC).

• *The model deported application.* The code afferent to the interface is placed on the client platform, while the application and the SGBD are situated on the server (X Windows run under sub Unix).

• *The model distributed application.* Presupposes the localization of the interface on the client-computer, of the SGBD on the server-computer, while a part of the application is resident on the station and the other part on the server.

• *The model deported data base.* The interface and the application are resident on the client-platform, while the SGBD is placed on the server. It is the model of the architecture client / server ‘classic’, on whose logic are realized the majority of the systems commercialized under the title ‘client / server’.

• *The model distributed data base.* The interface, the application and a first part of the SGBD are found on the client-system, while a second part of the SGBD is resident on the server.

Many organizations applied mixed solutions, on the basis of combining the facilities of two or more methods, according the specific of the unit, the stage of information (equipments, programs, specialists), resources and culture of the enterprise in the field of informational systems.

**References:**