# ICT MANAGEMENT FUNCTIONS

## The formation of the technological environment of the sphere of enterprise Informatization

One of the main elements in the management system of a modern enterprise is information that is first generated, accumulated and converted using a variety of hardware and software. Obviously, with the development of scientific and technological progress, the global market for information technology tools (computing, peripheral, special and communication equipment, as well as software, information and service tools) is rapidly expanding and differentiating, which means that options for possible solutions in the field of technological environment formation are multiplying areas of information processing. This does not mean design work on the creation of new IT or IS and their elements, but the decisions that the manager makes as a representative of the customer, that is, in the development of technical specifications for the development and implementation of the most appropriate solution in the field of computerization of systems management at this enterprise. From these positions, the enterprise management needs to decide on the following important issues:

* what technical means should be included in the technological environment of the enterprise information sphere;

* what basis should telecommunications be effectively developed; * how software tools should be formed and developed (operating

systems, tools work with data, user application);

* what degree of decentralization of elements of the technological environment and information resources should be chosen;

* what standards (normative) should be used in the formation and development of the technological environment of the sphere of Informatization;

* what criteria are the basis for choosing a supplier of elements of the technological environment.

The evolution of the development of computer technology indicates that almost from the very beginning, computers of various types were developed, and this trend continues to this day. Therefore, when forming the technological environment in terms of *computer technology*, first of all, it is necessary to justify their complex, consisting of different (one) types and capable of solving the problems of enterprise informatization.

Until recently, the leading indicator of the classification of electronic computers was the performance indicator of the central processor. However, this indicator does not always determine the properties of electronic computers as the basis for the formation of IT and IS, especially in multiprocessor systems. In this regard, the assessment of generalized computer performance in a certain class of tasks and technologies is accepted. On this basis, there are four classes of computers: micro, small, large and supercomputers. In addition, for example, when solving problems of enterprise management, the technical characteristics of computer technology are not so important. In this class of problems is universally applicable classification of computers according to their total cost. It includes six classes: microcomputers, small systems, medium systems, large systems, ultra- large computers, supercomputers. It should be noted that class outlines change over time. This is due to the fact that families of approximately the same type of computers are gradually formed, but they differ significantly in one or another parameter, in particular, in speed. In addition, computerization as a branch of the economy and increased competition between manufacturers leads to lower prices for computing equipment and its individual components, which makes computers that are more powerful available to the user, thereby transferring them to a lower cost class. The most important role in modern informatization systems is played by *telecommunication facilities*. Along with local computer networks, the Internet, a global network of collective use, has become the most popular at the present time. The resources of the network were so attractive that they were exploited by the economic and social infrastructure of the society. Business is gradually becoming the main user of Internet services, from advertising to creating online stores.

In addition, cellular telephony is playing an increasingly important role as a telecommunications tool. This is due, on the one hand, to the global spread of mobile telephony, and, on the other, to the expansion of the functionality of mobile phones.

All this leads to the need to justify the most rational option of forming a corporate network with access to the business space. Moreover, here it is still essential not only the technical capabilities of telecommunications systems, but also the cost of their creation and maintenance.

The most important element of the technological environment of the enterprise informatization sphere is *software*, among which the central place is occupied by operating systems. In General, for most computers and their manufacturers, operating systems are "branded" (their internal properties are original and constitute the secret of the manufacturer), but they are usually

universal in terms of external interfaces. The main requirement when choosing operating systems is their high reliability and viability. In addition, their ability to support changeable systems is important because it ensures the security, availability and efficiency of information resources.

Due to the increase in processed and stored volumes of information one of the important tasks is to choose a database management system (DBMS). For a long time, the formation of data structures is carried out in the environment of a standard DBMS. However, there are no ―ideal‖ DBMS and there cannot be: they all have their own strengths and weaknesses. The database of a large information system is designed for a long period of operation and therefore the choice of DBMS is no less important than the choice of the operating system. One of the most important characteristics of a DBMS is the data model. The most common model is currently a relational data model. It has a well-developed mathematical justification and standards, and is very flexible about changing the data structure. However, there is a large range of tasks (in particular, business tasks) that can be more effectively solved by means of other models, for example, on the basis of an object-oriented approach.

At present, the need to work with an extremely large amount of information is becoming more and more urgent (for example, information about the company's activities for a number of years). As a result, there was a technology of information storage. Its peculiarity is that it creates a centralized corporate database that is designed primarily for maintenance of systems of decision support.

Since the 90-ies of the XX century, the creation and implementation of application systems of various kinds and purposes have become an independent segment of the market of information technology. Large universal corporate information systems occupy a large place here (CIS), but specialized software products are also quite widespread (for example, legal information or reference systems).At the same time, most user programs are developed either by the consumer himself, or by individual order of third-party organizations. To determine the ratio of own and purchased application systems is one of the major tasks of information management.

The *degree of decentralization* of the information system is likely to be chosen by analogy with the degree of decentralization in the enterprise of other functions. In addition, the level of centralization of the basic computational procedures, as well as the adopted model of organizing and managing databases, is important.

The choice of a *supplier of elements of the technological environment* will also be determined on the basis of general ideas about the ways of solving the problems facing the enterprise. The choice of informatization tools for the development of information systems from new proposals from suppliers or from products already on the market is usually carried out by the criterion, the value of which most fully reflects the role of informatization for the enterprise. Although

experience has already been accumulated in this area by both enterprises and experts, in each individual case a detailed system analysis is required.

In many IS using personal computers (PC), the following principle has established itself in the formation of the technological environment: enterprises seek a unified technology park in order to use as internal (providing supervision, training of personnel of the enterprise-user), and external (preferential conditions for the purchase, providing follow-up support) its advantage.

Based on the deepening and strengthening of *rationing and standardization* on the part of suppliers of all means of information increased the desire of enterprises to be independent of communication only with the same manufacturers. This became quite possible, because the suppliers agreed on a number of standards, so that enterprises have a certain freedom in solving the problem of choosing certain means.

The answers to these and other similar questions are the area of knowledge and skills of a modern information manager. It is he who must develop possible alternatives to technological solutions and justify the most promising of them. The task of the company's management is to make a final decision taking into account the general corporate goals and the adopted development strategy of the organization.