The Role of IT-Management in the Development of Information Technologies

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ABSTRACT: This article discusses the role of IT management in the development of information technology.

I.   INTRODUCTION

Information management is a special area of management that stood out as an independent area in the late 70s. XX century, specializing in the collection, management and distribution of information. Management involves the organization and control of planning, structure, evaluation and dissemination of information in order to predict customer expectations and information support of the enterprise functions.The scope of information management is the totality of all the decisions necessary for management at all stages of the life cycle of an enterprise, including all actions and operations related to information in all its forms and conditions, and to the enterprise as a whole. At the same time, the tasks of determining the value and efficiency of using not only the information itself (data and knowledge) should be solved, so that each manager receives only relevant information, but also other enterprise resources that come into contact with the information to one degree or another: technological, personnel, financial, etc., is taught as an innovative specialty.

II.   LITERATURE SURVEY

These are information resources at the enterprise level:

infrastructure: server and network equipment, workstations, telecommunication complexes and other technical equipment;

systems: application software and large software systems;

technologies: system software, DBMS, artificial intelligence, machine learning;

HR: engineers, system administrators, programmers, technical support staff, consultants;

Information: Data stored in the organization (including Big Data).

Goals and objectives of IT management IT management is what acts as a driver for a business through the prism of information technology. This concept fits seamlessly into the trend of universal digitalization and digital transformation, when enterprises become flexible, scalable and with the help of modern technologies better meet the needs of customers. At the same time, all available information resource management functions are used: budget redistribution, work with HR, control of business processes, search for new approaches to the development and implementation of new software, organization of technical support, etc. The main goal of IT management is to develop a business with the help of a comprehensive tool in the form of information technology. For this, it is necessary to develop a strategy and tactics, provide for the possibility of scaling up the business in the future, as well as link IT with all other departments and organize their productive joint work. This is due to the fact that tasks that affect IT directly are increasingly beyond the competence of software developers and system administrators. The development of the information base should not become an end in itself, the priority task is to use it for business development. It is important to strike a balance between the internal and external needs of the organization. On the one hand, IT resources should serve the business tasks of the enterprise, on the other hand, it must comply with internal and international quality requirements and standards, legislation, generally accepted methods and industry technologies.

Who is an IT Manager? IT manager, who is it? This is the name of specialists who are involved in managing information resources in state, municipal and commercial organizations. They have long-term planning and implementation skills for strategies that affect IT services, processes and enterprise infrastructure. Their task is to ensure business continuity using the latest advances in information technology.An IT manager is a person whose functions and tasks overlap with the project manager, but the first is responsible for the entire range of services, and not

just for a single project for a limited duration. The manager has to process and memorize a large amount of information, as well as distribute it between departments of the organization. At the same time, he makes sure that this data is reliable, protects it from third-party access and applies new approaches to management .IT Manager Functions.Who is an IT manager in terms of the tasks that he performs in a professional environment? This is a person who:engaged in the management of IT personnel in the enterprise; calculates and distributes the budget for the needs of the information infrastructure; analyzes customer satisfaction of the company with services; develops and implements new IT services;negotiates with suppliers of computer, network and TC equipment; mastering new technologies that can "accelerate" the business; develops a strategy and sets the pace of work on projects; engaged in planning in the short and long term;organizes the interaction of the information department with other departments within the enterprise. IT management and outsourcing. If we talk about what IT management is in business - what it is and how it works - the question arises not only about effective resource management, but also about their delegation. A new concept appears here - IT outsourcing. If the manager of the enterprise understands that his own information resources are not enough to solve a specific problem, they can be obtained on the side. Typical Outsourcing Examples: rental of computing power in a traditional or cloud data center; involvement of specialists in the development of application or system software; delegation of tasks for maintenance and service of physical infrastructure.

III. MATERIAL AND METHODS

No company in the 21st century can exist and develop without an IT structure. The manager needs to know who the IT manager is, what kind of services he provides and what tasks he solves. This specialist and the methods of work that he uses in practice allow the company to reorient itself to the real needs of the market and to satisfy the demands of consumers efficiently. Management approaches help to distribute available information resources in such a way as to solve this problem as efficiently as possible and at the same time minimize costs, ensuring profit growth in the long term.

The accumulation of data in memory and their storage are similar to the storage of raw materials in a warehouse. The memory capacity of the IP corresponds to the storage capacity. Just like raw materials, data should not be "in stock", they should be fully and constantly used. Excess memory (excessive storage space) reduces the efficiency of the system, since data is searched and processed longer, devices with a larger capacity have a higher price, their cost is transferred to products, i.e. on the result of data processing.The main stage of IT is data processing by programs. The potential for losses and reserves are hidden to a greater extent than at other stages. By analogy with the production system, data can be likened to workpieces, semi-finished products or components, applied processing programs to tools, service software tools to devices, and computers and their basic software tools to basic technological equipment (machines, presses, welding machines, etc.) Powerful equipment, basic software, application programs, of course, increase productivity and quality of work, but can be redundant, which leads to higher prices for products - information products or calculation results.The delivery of results (products) in the required forms can be carried out on the screen of a user monitor, in network structures for collective use, in the form of a "hard copy" - a document, on a scoreboard, etc. This stage requires corresponding costs and equipment and is similar to the previous stage.The transfer of the resulting information to the user - the rational consumption of IP products - is a very difficult question: it is not always clear how and what information issued by the IP is really used by users, i.e. consumed and gives effect.These features of IP show the need to ensure efficiency both at each stage of the IT used, and in the IP as a whole as a special management problem. Moreover, this problem is obviously object-oriented: information as the main production matter, which has its own characteristics, IT as a set of specific stages, IP as a management application environment.Information management application field - all stages of the IP life cycle. The generalized scheme includes the stages of creation - implementation - support. However, a coherent scheme of the IP life cycle is very rare.It's hard for any organization to say that its IP is being created anew, because something has always been developed in this area, and only for newly created firms with a big stretch it can be considered that a new IP is being created. The sequence for creating a new IP is as follows. First, the concept of the system and its goal tree (System Planning) are developed, then the conditions for its work are clarified, mathematical models and topology (System Analysis) are formed. Development or design of IP (System Design) is an extended multi-turn iterative process, which is usually based on a systematic approach. Then the system is implemented (System Implementation) at the workplaces for which it is created. During operation, any system needs support and support (System Support).In the practice of creating IS it is customary to start using modules for solving problems and complexes of tasks or subsystems as they are ready and developed. Therefore, the processes of creation and implementation usually go simultaneously, intertwined in the most bizarre way. When the project of the system in the outlined contours is completed, the implementation processes begin to play the main role, however, processes for its improvement, modernization, etc.,

inevitably arise and expand inside the system. Therefore, without completing the creation of the entire system, they begin to refine it, and accordingly the implementation process is delayed. As implemented, i.e. putting into operation of the elements of IP, a set of means of its support, maintenance, maintenance, testing, etc. is created.Thus, the IP is almost never ready, completed completely or delivered on a turnkey basis. She is always in the process of change, "breathing", "living". In this case, its main tasks should be continuously solved, and with maximum efficiency at each stage or in each phase of its state. In this regard, IP requires constant monitoring of its condition and the use of all its elements: at all stages it is necessary to ensure the achievement of the goals set for the system and its systematic and targeted development in the structure of the main activities of the enterprise or institution. All this together represents the essence of the management problem in relation to information systems, i.e. information management.Information management (IM) is a special area of management that has stood out in recent years as an independent area and is increasingly acquiring specific features. Define the scope covered by information management.In the broad sense, the sphere of MI is the totality of all management tasks at all stages of lifeof the enterprise, including all actions and operations associated with information in all its forms and conditions, and with the enterprise as a whole based on this information. At the same time, the tasks of determining the value and efficiency of using not only the information itself (data and knowledge), but also other resources of the enterprise, to some extent coming into contact with the information: technological, financial, human, etc.Obviously, such a broad interpretation of the concept of MI is not always required; Moreover, for its practical use, obviously, a high degree of maturity of the organization in all respects is necessary, which is still quite rare. Therefore, it turns out to be ineffective due to poor security in a particular organization.In the narrow sense, IM represents a range of management tasks primarily of a production and technological nature, the solution of which ensures the achievement of the organization's goals in its main activity through effective coordinated management of both the elements, processes and resources of the information system itself, and other elements, processes and resources of the enterprise . In these management tasks, information systems and information technologies implemented in them are used to one degree or another.It is impossible to draw a clear line between these understandings, but in obvious situations it is quite realistic. In any case, the leadership of a particular organization can always take for itself one or another version of the attitude to the role of IM in their activities and be guided by it in practice.

IV. SIMULATION&RESULTS

It is widely believed that information systems do not live long: from 3 to 7 years. In fact, this only indicates the high dynamism of IP and IT: during the specified time, the system can remain effective. Further, it must develop or it will cease to be competitive. As such, IP should be created at the enterprise or in the institution "forever", and in a form that allows the development and improvement of all components without losing the ability to function. Most effectively, this process provides a systematic approach. This is important to emphasize, because with radical restructuring, an enterprise may practically lose its information base due to the fact that databases, processing programs, formats and structures, technical and technological standards, rights and obligations will be impossible to use in new versions of the system. The output of domestic enterprises on the standards and technologies adopted in the world in the means of informatization allows us to hope that in the future it will be possible to avoid such situations. Nevertheless, it must be assumed that IP in one or another component (mathematical, technological, technical, software, etc.) can undergo changes, and even significant ones.t should be accepted that information and computer systems are complex systems. This is quite obvious in relation to the IP of enterprises, institutions, departments, industries, banks, etc. However, even complexes built on one personal computer can be attributed to complex systems and for their effective construction and use apply a systematic approach. IP and their components should be considered as production products intended for regular use. Requirements for any product are formulated taking into account the interests of both manufacturers and consumers, the requirements are usually as follows:social significance or social utility, as well as a certain integrated product efficiency achieved in the manufacture and use;a description of the technological process of creating the product;the possibility of custom modifications and adaptation;the presence of certain quantitative characteristics that allow explicitly setting requirements for efficiency and perfection, as well as a certain price;consumer awareness of the features of the functioning and usefulness of products in their field of activity;consumer confidence in the usefulness of the product and the possibility of its practical development with available resources and terms; guarantees of reliability and quality. Let us further consider the managerial role of an IT manager at various stages of the life cycle of an information product .Well-known wisdom says: "The disorder of automation does not lend itself." Therefore, we will begin our consideration with organizational issues.

V. EXPERIMENTAL RESULTS

The scope of information processing (OI) is associated with the main activities of the organization and is the structure that provides this activity. This relationship is mutual, the interaction proceeds in time, passes typical phases and states and has certain typical characteristics in these phases. Therefore, the state of OI and the characteristics of the organization are considered in order to assess the stages of maturity.

VI.CONCLUSION

In conclusion, the role of IT management in the development of any enterprise is very important. Information regulation and management are of paramount importance for today's civilized society.

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