International Journal of Innovative Technology and Exploring Engineering (IJITEE)
ISSN: 2278-3075 (Online), Volume-9 Issue-4, February 2020

Information Technology in The Activities of Service Enterprises

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Abstract*: The article discusses the process of informatization in the system of activity of service enterprises. The essence of the definition of informatization in the service sector is revealed. The article describes the experience of using an operating level system that supports management operations, monitors elementary actions of an organization such as sales, payments, cash deposits, payroll. The main goal of the system at this level is to answer common questions and conduct transaction flows through the organization. The article indicates that the reform of the methods of managing facilities in the service sector entailed not only a reorganization of the organization of the process of automation of managerial activities, but also the spread of new forms of implementation of this activity.

Keywords*: information systems, service enterprise, informatization, technology.

I. INTRODUCTION

The transition to market relations in scientific and technological progress has been greatly accelerated by the pace of introduction in all spheres of activity of service enterprises of the latest achievements in the field of informatization. The term "informatization" first appeared when creating local multi-terminal information-computing systems and queuing networks.

Informatization in the field of process management of service enterprises involves, first of all, increasing the productivity of workers by reducing the cost / production ratio, as well as improving the qualifications and professional literacy of specialists involved in managerial activities.

In developed countries, two mutually connected revolutions take place simultaneously: in information technology and in business, mutually helping each other.

Revised Manuscript Received on February 28, 2020.
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Information technologies have existed for a long time, so with the development of computers and communications, various variations began to appear: "information and communication technologies", "computer information technologies", etc.

In this study, we will understand information technology as the modern value, that is, the integration of computers, electronics and communications in service enterprises.

II. CHARACTERISTICS OF INFORMATION TECHNOLOGY

New information technology is characterized by:

- user operation in manipulation mode;
- end-to-end information support at all stages of information passing on the basis of integrated databases, providing a single unified form of presentation, storage, retrieval, display, recovery, and data protection;
- paperless document processing;
- interactive mode of solving problems;
- the possibility of collective execution of documents based on network technology client - server, combined by means of communication;
- opportunities, adaptive restructuring of the forms and method of presenting information in the process of solving the problem. [7]

The indispensability of computer technology is that it makes it possible to optimize and rationalize the management function through the use of new means of collecting, transmitting and converting information.

The benefits of information technology

- reduction of the total costs of the enterprise in the supply chain (for procurement),
- increase the speed of trade,
- reduction of surplus inventory to a minimum,
- increase and complication of the product range,
- improving product quality,
- Fulfillment of orders on time and improving the overall quality of customer service.

The reform of the methods of managing service objects entailed not only a restructuring of the organization of the process of automation of managerial activities, but also the spread of new forms of implementation of this activity.

Since there are various interests, features and levels in the organization, there are various types of information systems. No single system can fully satisfy the organization's needs for all information. [2].

A. Types of Information Systems

The organization can be divided into levels: strategic, managerial, knowledge and operational; and into functional areas such as sales and marketing, manufacturing, finance, accounting and human resources.

Systems are created to serve these various organizational interests. The various organizational levels serve four main types of information systems: systems with an operational level, systems of a knowledge level, systems of a management level and systems with a strategic level. [1,3].

Types of Information Systems
Employee Groups
Strategic level
Top management
Managerial level
Middle managers
Knowledge level
Knowledge and data workers
Operational level
Operations Managers

Table 1. Types of information systems.

Types of Information Systems	Employee Groups	
Strategic level	Top management	
Managerial level		Middle managers
Knowledge level		Knowledge and data workers
Operational level	Operations Managers	

B. Methodology

Operational level systems support operations managers, monitor the organization's basic activities such as sales, payments, cash deposits, payroll. The main goal of the system at this level is to answer common questions and conduct transaction flows through the organization. In order to answer these types of questions, information should generally be easily accessible, efficient and accurate.

Knowledge level systems support knowledge workers and data processors in the organization. [8,9].

The goal of knowledge level systems is to help integrate new knowledge into the business and help the organization manage the flow of documents. Knowledge level systems, especially in the form of workstations and office systems, are today the fastest growing business applications.

Management level systems are designed to serve the control, management, decision-making and administrative activities of mid-level managers. They determine whether objects work well and periodically notify them.

For example, the movement management system reports the movement of the total quantity of goods, the uniformity of the work of the sales department and the department that finances the costs for employees in all sections of the company, noting where actual costs exceed budgets. [10]

Strategic-level systems are a tool to help top-level managers who prepare strategic research and long-term trends in the company and in the business environment. Their main purpose is to bring changes in operating conditions into line with the existing organizational possibility.

Information systems can also be differentiated functionally. The main organizational functions such as sales and marketing, production, finance, accounting and human resources are served by our own information systems. In large organizations, sub functions of each of these main functions also have their own information systems. For example, a production function might have systems for inventory management, process control, plant maintenance, computer-aided design, and material requirements planning.

A typical organization has systems of various levels: operational, managerial, knowledge and strategic for each functional area. For example, a commercial function has a commercial system at the operational level to record daily business data and process orders. The knowledge level system creates the appropriate displays to demonstrate the products of the company. Management level systems track the monthly sales data of all commercial areas and report on areas where the sale exceeds the expected level or falls below the expected level. The forecast system predicts business trends over a five-year period - serves the strategic level. [4,5].

From the point of view of using information technologies, almost the entire set of companies represented on the market can be divided into four categories in which:

-In the process of development, various, non-interconnected systems have been introduced for accounting and managing the enterprise in certain areas of activity, such as sales, procurement, warehouse, accounting, personnel;

-An integrated information system has been introduced, developed "on order" and includes components from the above list of possible modules, but which does not meet the current level and requirements of constantly emerging new standards;

-Practically no information technologies are used (with the exception of accounting) in the management of processes and resources;

-An attempt was made to introduce an industrial system whose characteristics meet the requirements of one of the accepted standards (MRP, MRPII, ERP, etc.), but the implementation result is unsatisfactory.

Experience in using information systems

Many large companies in the USA and Europe switched to the use of ERP standard information systems several years ago. So far, this cannot be said about Asian countries. Most financial managers in Asian companies have hardly heard of such systems, let alone introduce them.

Although there are companies that have decided to switch to ERP-systems.

The developers of information systems, in particular SAP, Baan,

Oracle, PeopleSoft and J.D. Edwards, quite aggressively advertise their products,

which gives the impression of people who are not knowledgeable in this field the impression that these programs can solve all the problems of their companies.

Statistics show that most of the attempts to implement an information system ended in failure, heavy losses, or bankruptcy. For example, FoxMeyer management claims that the erroneous introduction of an ERP system led to its bankruptcy. The company blames the creators of the system and consultants. The same fate befell the companies Dell Computer, Dow Chemical and Kellogg's. But there are also examples of successful use of ERP systems. For example, the telecommunications company Aliant claims that the project to implement the ERP system was very successful. The expected rate of return on investment in this project was 33%. [12,13]

Despite the many unsuccessful attempts to implement information systems, many companies around the world are seriously thinking about creating a system to improve their performance. Most likely, this is quite justified, since with a reasonable professional approach to the implementation of an information system, you can create a tool for more effective business management.

III. RESULT AND DISCUSSION

In the process of researching the use of information technology in service industry enterprises, we found out that the information system for managing an industrial enterprise should not be closed only within the framework of business process management. This system should combine all three levels of process control in the enterprise:

-Management of business processes

- Design and development management

- Management of the production process.

The unity of the enterprise management information system is that the data received or entered at any level of the system should be accessible to all its components (single sign-on principle).

Development prospects are laid down in the system by the system supplier and the set of standards with which it satisfies.

Obviously, the sustainability of a system supplier in the market also has a huge impact on development prospects. To determine sustainability, you must clearly know what form of ownership of the system the supplier has, what share it has in the market, how much it exists in the market. Statistics show that the proportion of organizations using information technology is increasing (diagram 1).

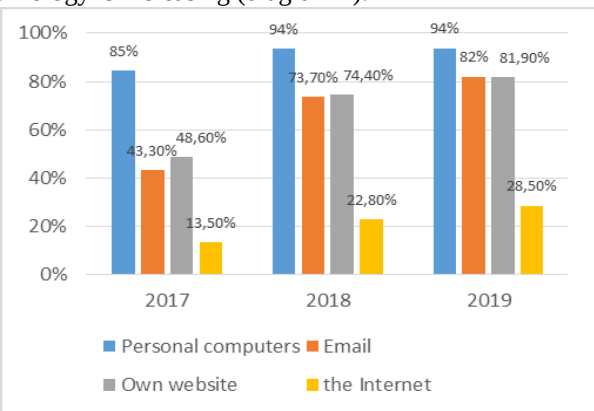

Diagram 1. Percentage of organizations using information technology

The basic principle of using information technology in service enterprises is the method of implementing the system.

From the very beginning you need to make sure that the project is properly organized. [15.14]

It's necessary:

1. To achieve faith in success and devotion from those who play a key role in the implementation of the project.

2. Determine who will be the full-time project manager for the implementation of the system. This person must have the necessary skills to perform such work, it is desirable that he has experience in implementing systems.

3. Clearly define and reflect in the documents the roles and responsibilities, as well as the terms of reference of each member of the project team.

4. Ensure that people with these functions have the necessary skills.

5. Develop a detailed work plan, divide it into stages, determine the deadlines for fulfilling tasks and stick to them.

Three stages of information system implementation should be distinguished:

1. Research. The executing company conducts a study of your company's business processes.

2. Finalization of the system. The programmers of the implementing company configure or modify the necessary functionality of the system.

3. System startup.

The use of information technology qualitatively affects the process of processing data of the organization's work in any direction (diagram 2).

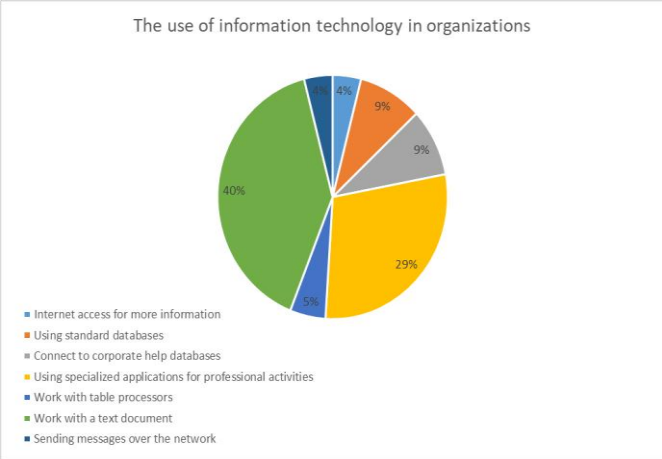

Diagram 2. The use of information technology in organizations

IV. CONCLUSION

The use of information technology for enterprise management makes any company more competitive by increasing its manageability and adaptability to changes in market conditions. Such automation allows you to:

- To increase the efficiency of company management by providing managers and specialists with the most complete, operational and reliable information based on a single data bank.

- To reduce the costs of doing business by automating the processes of information processing, regulation and simplifying the access of company employees to the necessary information.

Change the nature of the work of employees, saving them from performing routine work and giving them the opportunity to focus on professionally important responsibilities.

- Ensure reliable accounting and control of income and expenditure of funds at all levels of management.

- Middle and lower-level managers to analyze the activities of their units and quickly prepare summary and analytical reports for management and related departments.

- Improve the efficiency of data exchange between individual departments, branches and the central office.

- Ensure complete security and data integrity at all stages of information processing.

Automation gives a significantly greater effect with an integrated approach. Partial automation of individual workplaces or functions can solve only another burning problem. However, negative effects also arise: they do not decrease, and sometimes the labor input and personnel maintenance costs even increase; inconsistency of work of divisions is not eliminated.

So, for the successful implementation of the enterprise management system it is necessary:

- when choosing a system, not based on its presence in the market, but on how suitable it is to meet the needs of the company's business;

- proceed with implementation, having a strong project manager and project plan, which has been carefully thought out;

-review the methods of conducting business activities of the company before choosing a system;

- regularly communicate with employees, trying to attract them to participate in the implementation of the system and give them the opportunity to make sure that their needs are taken into account;

- to monitor the progress of the project, checking the identified main stages and deadlines for completing tasks;

- establish real timelines and draw up an underestimated budget;

- bring into line with the new requirements the level of training of the employees of the information systems department;

- entrust the implementation of the project to someone who knows the activities of your company from the inside.

A typical implementation plan was developed at Oliver Wight, but experience has shown that, to one degree or another, almost all firms follow this strategy.

This plan consists of the following steps:

1. Preliminary examination and assessment of the state of the company;
2. Pre-retraining;
3. Terms of reference (analysis of the problem of building the system);
4. Feasibility study (cost-benefit analysis);
5. Organization of the project (appointment of responsible persons, composition of committees);
6. Development of goals (what we expect from the project);
7. Terms of reference for process management;
8. Initial retraining (retraining of employees);
9. Planning and top-level management;
10. Data management;
11. Simultaneous implementation of various organization and management technologies;
12. Software;
13. An experimental example;
14. Obtaining results;
15. Analysis of the current state;
16. Constant retraining.

For all its revolution, information technology has not abolished the production process, has not eliminated competitors, and has not deprived a person of the right to make decisions.

The management object - the company did not cease to exist, even if it became virtual, the external environment continues to exist, and even increased, the need to find solutions to poorly structured tasks remains. Rather, we can talk about the intensification of all processes in the information age. The toolbox in managing the company has changed, but it has changed so much that it has affected all the processes that managers are involved in: planning, organization, management and control.

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