

IT Outsourcing Components and Types

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Abstract: This paper classifies the main types of IT outsourcing, applied in contemporary organizations, as: IT Application services and IT Infrastructure services. The advantages, disadvantages, problems and risks associated with the use of various IT outsourcing services are pointed out. A model of the relationship between the participants in the outsourcing process is proposed.

Keywords: IT technologies, IT outsourcing, IT Application services, IT Infrastructure services.

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I. INTRODUCTION

The increasing use of IT outsourcing is determined by the perspectives that are revealed to modern companies. Degree of utilization of the services of IT outsourcing companies depends on the value, accessibility and the real need for their services.

The main services offered by IT outsourcing companies can be classified into the following groups:

- Management of information systems (IT management)
- Development and integration of software applications;
- Consulting and training;
- Maintenance of hardware and software means.

According to Gartner Group, the first three are the future prospects of IT outsourcing, because they support the improvement in the efficiency and competitiveness of modern business.

II. IT OUTSOURCING COMPONENTS AND TYPES

The development of modern organizations depends on the scope and volume of IT outsourcing activities that they use. Many of the companies, operating in the fields of information business use outsourcing, which in turn provide their clients with their own complex IT services. These companies are providers of hardware and software means, databases, system integrators and network providers. They use IT outsourcing as a tool for optimization of both its own business and the business of its customers. Of greatest interest to the successful management are these IT services that enable the efficiency and competitiveness of today's organizations.

According to Outsourcing Institute IT index, the main areas that are most often subject to IT outsourcing are:

- Network Management;
- user rights management;
- Internet applications and e-commerce;
- development and maintenance of software applications;
- client-server interaction;
- consulting and reengineering;
- networks for processing data, Internet, Intranet, etc..

In the literature exists different classifications of types of IT outsourcing, depending on: the type and volume of activity, size of companies, the remoteness of companies and other factors. According [1] and others, authors distinguish four types of IT outsourcing:

- Professional, include accounting, legal, purchasing, information technology support and other specialized services.

- Manufacturing outsourcing services usually are quite industry-specific. Process-specific can be specific to a unique process or internal procedure.

- Operational for very specific operational activities to be delegated to outside companies.

Differentiation between different types of IT outsourcing is essential for their full and detailed characterization, and is essential in guiding their practical application.

In this article the main types of IT outsourcing are separated into two groups:

IT Application services, which include (Fig. 1):

1. Complete development of software applications.

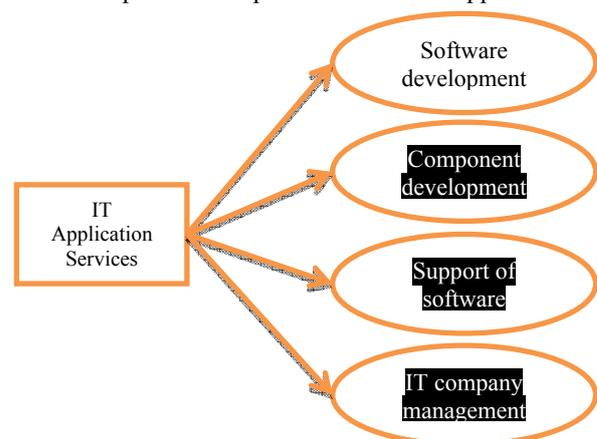


Fig.1. IT Application services

The user of the software application usually is hidden from the developer, who have contractual relationship with

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the mediator transferring the outsourcing contract. Pattern of relationships is has three units (Fig. 2 – Components of Outsourcing) and includes the following participants:

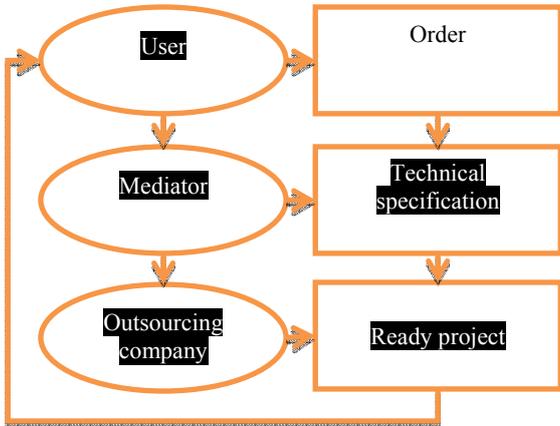


Fig. 2. Relationships between the participants in the development of IT outsourcing project

The company receiving orders to develop a software application acts as a mediator. It collects and formalizes requirements for the application to be developed, prepares technical specification and submits it to the outsourcing organization, and takes over the management of the outsourcing project. Advantage to the outsourcing organization is the availability of ready technical specification. Risks of misunderstanding of the requirements of the user, however, are higher than when operating without an intermediary. Likelihood the development to not fully satisfy the requirements of the user is high. All this can lead to conflicts between the participants, to be violated deadlines, to increase the stress in the behavior of the participants. [2]. Risks rise even more when the relationship between the participants is conducted mainly by telephone or the Internet.

2. Development of individual components of the software application.

In practice, most often implemented outsourcing contracts are for development of complex software applications. The scheme of work for these does not differ significantly from that in Fig. 2 "user software application - a company, mediator - outsourcing company." Individual modules or components of the software application can be created by different companies. For outsourcing companies complexity in the implementation of these projects increases the need for coordination of actions with those of its contractors. For the mediator company (responsible to the end-user for the project) increases the complexity of the work and financial costs for managing the project. In addition to the functions for communication with user - product endorser, are added functions to collect requirements, to formulate the technical specification, and to do project management, the company mediator often assumes the functions of integration and testing of the software application as a whole. For all participants in

project increases the risks associated with the interaction with contractors, the risks of poor implementation of development and failure to satisfy customer requirements, the risks of violation of deadlines and delay in payment. To avoid these company mediator needs to employ not only highly qualified managers [3], but also skilled system architects, integrators and testers.

3. Maintenance of existing Software.

Maintenance of already developed software applications is a common and typical IT outsourcing service. It is usually practiced in countries with low-cost labor and highly qualified specialists (creation of call or customer care centers). Many companies that own software applications fear not fall into dependence on external organizations and prefer to hire their own assistants.

4. IT project management

In recent years the outsourcing of the management of IT projects is gaining popularity. To carry out this important function outsourcing organizations specialized in this type of activity are hired. The role of the leader in IT projects has major significance and that adds a new dimension - kiberleadership [4].

IT Infrastructure services, which include (Fig. 3):

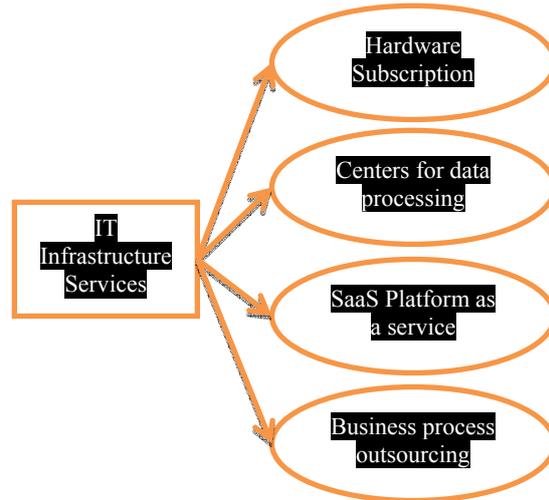


Fig. 3. IT Infrastructure services

1. Subscriptional service of hardware.

The organization offers a comprehensive range of services, allowing it to operate without its own system administrator. On the other hand it is possible the service to be designed in a way to allow this. Example of a system that does not require intervention by the system administrator has been developed by [5]. Subscriptional services of hardware often include services such as setting and updating software applications, protection against network intrusions, repairs and replacement of equipment, prevention and more.

2. Centers for data processing.

Many organizations use services for storing and processing information. These include DBMS, which consists of hardware and software solutions. The use of

external data processing centers saves financial resources of organizations.

3. Model SaaS (Software as a Service).

With the emergence of the global network new opportunities for the development of IT outsourcing arises. SaaS- outsourcing companies not only provide ready software applications and physical equipment for the installation of information systems, but also provide their maintenance and renewal. In SaaS- outsourcing consumer companies do not buy the applications but use them on lease, ie do not need to invest in software licensing and purchase of hardware. In recent years, in IT business is widely used the creation and supply of new software platforms and now we are talking about the model PaaS (Platform as a Service).

4. Business Process Outsourcing (BPO).

Of great importance for the competitiveness of today's business is the development of a Business Process Outsourcing, which includes the following key elements:

- enterprise resource planning (ERP) - computer information systems for management of a wide variety of activities in the company supporting integrated and operational planning , production and customer service in real time. ERP systems are characterized by: out of the box computer programs such as client-server applications, integration of greater part of the business processes and usage of the database of the whole organization; and they are based on Internet technologies.
- customer relationship management (CRM). CRM systems provide applications for all stages of the sales process and include: system for contact management, organization of work groups, work with clients, presentations and catalogs.
- supply chain management (SCM) SCM Modern SCM systems enable product positioning and business analysis of the activity of organizations.
- E-commerce IT companies offers their customers a wide range of services from creation of electronic catalogues, configurators for complex merchants, online payments, means for analysis of the market situation and planning of sales.

V. CONCLUSIONS

When deciding on the application of the appropriate type of IT outsourcing it is necessary to analyze and evaluate both the financial and organizational costs and technical parameters in minimize the risks for the participating organizations. Providers of IT outsourcing services often advertise their advantages. In many cases, they apply the method to calculate the efficiency of the use of IT outsourcing, but often fail to show any risks. Therefore, the task of deciding on the use of IT outsourcing in organizations is a complex and lengthy process in which

is necessary to assess accurately and adequately following aspects:

- Definition of IT services where possible use of outsourcing is.
- Analysis of the effectiveness of use of outsourcing in certain types of IT services.
- Identify positive sides, weaknesses and potential risks of the application of IT outsourcing for all participants.
- Taking decision for selection and hiring of outsourcing organization.

The application of IT outsourcing is not a definite issue, it is related to the evaluation and analysis of the efficiency and value for all stakeholders in the process.

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