ELEMENTS OF THE INFORMATION TECHNOLOGY SERVICES MANAGEMENT SYSTEM

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ABSTRACT

Digital media and the applications that use it opened the possibility for the functioning of new organizational models, where different entities may possess common goals, common tasks, common resources or a common IT system. Today, IT technology allow businesses to easily share resources and knowledge. They allow for the synchronization of information systems belonging to suppliers and manufacturers. In other words, IT enables the integration of business processes amongst various companies, such as automating the sending and receiving of electronic orders, something that has became quite common recently. Through IT applications and their proper use, organizations can co-create new value for the customer. An important issue is the study of the IT services management mechanism from an economical point of view. The aim of this paper is to present selected elements of the IT value management system in the enterprise.

Keywords: Management, business processes, IT technology, development.

INTRODUCTION

As a result of scientific advancement, there has been considerable development of new information technologies, which have impacted the following areas: the means, methods and manners of production, distribution processes, sales and service processes. Economic activity is increasingly characterized by networks, where the production of goods is the result of the interaction of many entities that share methods of management and new technologies.

The development of information and communication technologies has resulted in a society and economy that is beginning to operate according to a network model. In this model, certain individuals and businesses create network nodes, which are connected to one another by information and communication links, forming the technical infrastructure supporting cooperation throughout the network. Because of continuous technological development, customers' demands also increase. Better satisfaction of customer needs can be achieved through the use of an appropriate IT services management system.

RESEARCH METHODOLOGY

IT service management has been addressed in the literature on a small scale, and existing studies relate to only parts of important issues. Currently, little research and analysis focuses on the problems of IT service management.

Given the above information gap in the research and analysis of IT services management, the author of this study has set a target to fill, at least partially, this gap. The subject of discussion

in the article is the analysis of the mechanisms of IT service management in the field of economy and business. Furthermore, the objective of this study is to show new organizational solutions in enterprises on how to manage such services. As part of this study, the key generators of IT value were pinpointed. These key generators form the basis of the IT value management system.

In this work, the descriptive method of analysis was used, based on extensive literature studies. Theoretical output from Polish and English-language literature was used concerning mechanisms of management in business and the economy, in the context of increasing the value of the company. The use of foreign literature was necessary because of the dearth of Polish studies. This enriched reasoning and reflection on new aspects, and allowed to show the research problem in a broader perspective.

The main goals of IT services management

The IT Infrastructure Library – ITIL, is an attempt to collect and systematize the theoretical and practical approaches to IT services management. It is a set of best practices for IT management, developed by the international community composed of scientists, government agencies and consulting firms, under the direction of The Office of Government Commerce. According to the definition proposed by the ITIL: IT services management is a set of specialized organizational capabilities enabling the delivery of value in the form of services (*ITIL Service Strategy*, 2007).

The IT services management system is designed to provide internal customers (organizational entities) with tailored, specialized capabilities and resources in the form of clearly defined services at an acceptable level of quality, cost and risk. The IT service delivers value to customers by simultaneously ensuring proper functionality, defining the scope of services and its guarantees, describing the quality of the product, and the service delivery mode (Gee, 2011, pp. 23-29).

Appropriately selected the functionality of services enables the client to achieve greater productivity and / or efficiency in carrying out various tasks arising from business processes, or removing certain restrictions to fulfill these tasks (i.e. the ability to work from anywhere, the ability to reach new customer groups). A second attribute of the service – the guarantee – is to ensure that the elements described in the functionality of the product will be available to the customer at the right time and the right quality. This means the supplier (the IT organization) needs to fulfill conditions relating to the proper availability, capacity, continuity and security of IT services. Likewise, the service model emphasizes that the service provides value for the customer only in a situation where it provides adequate functionality and warranty at the same time (Bhatt, 2001, pp. 68-75).

In order to provide optimum value, both the utility and warranty of the service should be related to the requirements stemming from specific business processes that are supported by a particular service. As the scope and criticality of specific business activities varies in an enterprise, the scope and mode of providing IT services should also be different (Orzechowski, 2009). In the third, newest version of the handbook of good ITIL practices, various aspects of IT services were addressed: the definition of the life cycle of IT services, which consists of five phases (construction of strategy, design, transfer, exploitation and continuous improvement of services); the interconnections between phases; the impact of

changes in particular phases on the whole cycle and its various parts (Labedz & Lee, 2011, pp. 56-76).

IT in building company value

Management of company value is an integrative process designed to improve the making of strategic and operational decisions by focusing on the key factors shaping the value of the company, called generators (or carriers) of value (Copeland Koller & Murrin, 1997).

By analyzing the role of information technology and the impact of its use on the building of company value in the full lifecycle of IT services, three main generators of IT value for the enterprise can be identified:
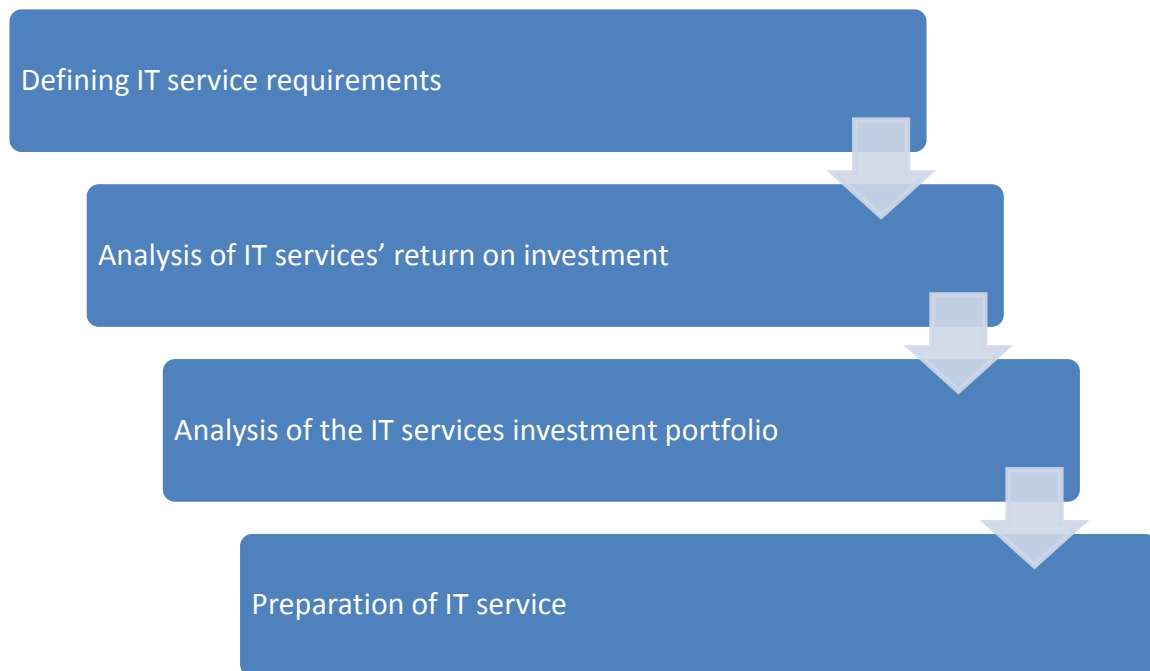
- Ownership of the proper IT services,
- Provision of the proper IT services,
- Proper utilization of IT services.

Ownership of the proper IT services means designing and building IT services that optimally match the scope, quality and cost required by the customer, and taking into account the service's relationship with other functioning and planned IT services. Provision of the proper IT services is the ability of organizations to deliver services while maintaining the proper parameters (quality, cost, etc.). In contrast, the proper utilization of IT services depends on whether the users of such services and organizations have prepared themselves to optimally use the service to its full potential (Suarez & Lanzolla, 2007, pp. 377-392).

Company value is created by offering customers goods or services at a price that will ensure the company getting a return on invested capital at a higher level than the weighted average cost of invested capital (Szablewski, 2004). To this end, the company should focus on strengthening its distinctive competence through which it will be able to gain (or keep) an advantage over the competition. Maintaining a company's generated value means preventing a reduction in the rate of return on invested capital below its weighted average cost. Lower returns from investment may arise from misallocation of resources, lower margins, fall in productivity, etc. The last phase, the allotment of value to shareholders, is the result of creating and maintaining company value, and is completed through the payment of dividends or sale of stocks/shares (Czarniewski, 2015, pp. 9-16).

Role of managers in the process of value creation

Figure 1 shows the phases of value creation through information technology. To define IT service requirements, there is a need to clarify business requirements for the functional and quality parameters of future IT services. At this stage, the role of business managers is to identify the tasks to be supported by IT services, and to precisely define the desired results of the service's operation (Hitt, Beamish, Jackson & Mathieu, 2007, pp. 1385-1399). Alternatively, the role of IT managers is to understand these expectations and conceptualize an IT system that can fulfill these expectations.

Figure 1.Phases of value creation through IT

Defining IT service requirements

Analysis of IT services' return on investment

Analysis of the IT services investment portfolio

Preparation of IT service

Source: Own research.

In the second stage, the role of business managers is to identify and to quantify the benefits they expect from the use of the IT service, and the costs connected with the introduction and exploitation of this service (Obłój & Obłój, 2006, pp. 213-224). The potential benefits can be divided into two groups. The first is an increase in productivity of employees (the same tasks performed by fewer people using fewer financial resources, etc.). The second is an increase in revenues, related to the possibility of implementing new business solutions, such as the ability to reach a wider group of customers by selling through the internet (Prahalad, 2009). Business costs are associated with the need to teach users how to handle a new tool (i.e. training workshops). They are also associated with changes in the organization of work (redesigning business processes, changing the way the organization functions).

During the second stage, the role of IT managers is to identify and to quantify the expenditures related to the construction and later exploitation of IT services (Sampson, 2010, pp. 35-37). Expenses should include both investments related to the construction of IT systems and the relevant changes in the organization necessary for the proper provision of services (trainings, changes in processes and the way the organization functions), as well as the future cost of the service (labor costs, amortization of equipment and software, cost of software upgrades, outsourcing costs, etc.)

The third stage is the analysis of the IT services investment portfolio. Here, the role of business managers is the establishment of principles for the evaluation and prioritization of investments, and the determination of weights for each criteria for evaluation, both in terms of the benefits the investment in IT services can provide, as well as the risks that are associated with it. Parameterization of the portfolio can reflect the strategic and operational objectives of the organization. Depending on the situation of the company, various types of investment may be desired (Czarniewski, 2014, pp. 9-14). To reduce the operating costs of the organization in the short term, Optimization investments may be supported. On the other

hand, the company may decide to invest in Development to generate additional cash flow for the organization in the medium or long term. Business managers evaluate the parameters of business investment (value and risk), and IT managers asses technical parameters (the technological or organizational risk of IT).

In the fourth stage, the preparation of the IT service, the role of business managers is to participate in the designing of the service to satisfy the earlier defined requirements. They should also participate in testing the service, and in preparing the organization to use the new or changed IT service properly (Schindehutte, Morris & Kocak, 2008). The role of IT managers is to design the service according to the requirements specified by the business managers. It is important to select the optimum method for obtaining service components. These components can include: building parts in-house, ordering a custom solution, buying a finished product, and the completion and coordination of work associated with the implementation of the IT service.

It is important to systematically improve IT services. Continuous improvement of IT services includes upgrading programs (in order to uphold the level of IT services agreed upon earlier) and to conform the range and quality of IT services to changing business needs.

Table1. Sources of IT value in the value management system

Stage	Sources of IT value
Defining the requirements of IT services	• adapting the range of IT services planned and their levels (quality, costs, etc.) to the needs arising from the required support for business processes
Analysis of IT services' return on investment	• completeness and reliability of the information on planned expenses (business and IT) required for the preparation and maintenance of IT services, and about planned benefits arising from the use of this service
Analysis of IT services investment portfolio	• balancing the investment portfolio for IT services, with regard to the priorities of the business units and the company as a whole
Preparing IT services	• effectiveness and efficiency of activities associated with design, construction and commissioning of IT services, • conformation of the range, quality and cost of IT services with real business needs • range and quality of preparation of users, organizations and processes utilizing IT services
Provision of IT services	• efficiency and effectiveness of activities related to the provision of IT services
Continuous improvement of IT services	• efficiency and effectiveness of activities related to the conformation of the range and quality of IT services for changing business needs.
Utilizing IT services	• increase in the efficiency and effectiveness of the functioning of business processes related to the utilization of IT services

Source: Own research based on the work of Orzechowski, 2011, p. 23.

Table 1 shows sources of IT value, characteristic for different stages of the IT value management cycle. These sources of value are key success factors associated with the use of information technology. By analyzing these factors, the company can determine the specific measurements of IT effectiveness and efficiency. These measurements will be used to optimize the implementation of tasks at selected stages of the life cycle of IT services. As a consequence, they will increase the impact of the use of IT to build the company's value.

CONCLUSION

1. IT value management systems clearly define the way of thinking about the use of information technology in the enterprise. It may be useful in finding sources of inefficiency associated with the use of IT, and in introducing specific IT management methods to eliminate identified inefficiencies.
2. Management of company value is an integrative process designed to improve strategic decision-making by focusing on the key factors influencing the value of the company. Within the framework of this study, basic generators (carriers) of IT value were distinguished, forming the basis of the life cycle of IT value management for the enterprise.
3. The concepts presented in this paper show the most important elements of the IT management process. For organizations that manage IT value, the management of human resources and technology are also very important. All elements of the system should allow the company to be as close as possible to the customer and the values their customers cherish.
4. Enterprises, in their long-term strategy, must find a place for flexibility that allows for the modification of the company's operations according to market dynamics. The ability to manage change in the enterprise and to acquire a competitive advantage is possible by using a proper IT management system.

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