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INCREASING BUSINESS PROCESS RESULTS IN IT-OUTSOURCING ENTERPRISES

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Introduction. The practice of the world business shows that in order to achieve a competitive advantage it is advisable to use a benchmarking tool that allows you to use the experience of your competitors who have succeeded in different areas of activity. Of particular relevance is the use of benchmarking in the field of innovation, in particular in the IT industry, which has become a key driver of economic growth and productivity in many countries.

Hypothesis. High-quality IT consulting services require not just the automation of a single process or the implementation of a specific system, but the modernization of the organization's IT infrastructure, bringing it into line with business goals. The practical implementation of such projects allows the organization to get a real increase in production efficiency. Complex consulting projects based on benchmarking are characterized by the use of various services in the field of IT consulting and consulting in related branches of management on the basis of borrowing the best world experience.

The purpose of the study is to develop methodological provisions and practical recommendations for the implementation and use of benchmarking technology in the business management system.

Methodology. The theoretical and methodological basis of the research is the scientific works of domestic and foreign scientists and specialists on the planning and organization of benchmarking outsourcing of IT services. The following methods are used in the research process: theoretical generalization, analysis, synthesis.

Results: main types and stages of benchmarking realization are considered, application of the concept of benchmarking in the system of management of IT business processes is substantiated; developed methodological and practical recommendations for the implementation of benchmarking in the IT sector on the basis of outsourcing. The connection between the concepts of business process benchmarking and outsourcing has been established, a detailed description of business processes in IT outsourcing enterprises is given.

Conclusions: The creation of a benchmarking platform that will increase the innovation activity of IT companies and will help to forge closer links between IT companies, industrial enterprises and public authorities.

Keywords: business processes; IT outsourcing; benchmarking; IT services.

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ПІДВИЩЕННЯ РЕЗУЛЬТАТИВНОСТІ БІЗНЕС-ПРОЦЕСІВ В ПІДПРИЄМСТВАХ СФЕРИ ІТ-АУТСОРСИНГУ НА ЗАСАДАХ БЕНЧМАРКІНГУ

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Вступ. Практика світового бізнесу показує, що для досягнення конкурентної переваги доцільно застосовувати інструментарій бенчмаркінгу, який дозволяє використовувати досвід своїх конкурентів, що досягли успіхів у різних напрямках діяльності. Особливої актуальності набуває застосування бенчмаркінгу в сфері інновацій, зокрема, в ІТ-галузі, яка стала ключовим фактором економічного зростання і продуктивності праці в багатьох країнах світу.

Гіпотеза. Якісне надання ІТ-консалтингових послуг вимагає не просто автоматизації окремого процесу або впровадження конкретної системи, а модернізації ІТ-інфраструктури організації, приведення її у відповідність цілям бізнесу. Практична реалізація таких проектів дозволяє організації отримати реальне підвищення ефективності виробництва. Комплексні консалтингові проекти на засадах бенчмаркінгу характеризується використанням різних послуг в області ІТ-консалтингу та консалтингу в суміжних галузях управління на підставі запозичення найкращого світового досвіду.

Мета дослідження – розробка методичних положень та практичних рекомендацій щодо впровадженню і використанню технології бенчмаркінгу в системі управління бізнесом.

Методологія. Теоретичною та методологічною основою дослідження є наукові праці вітчизняних і зарубіжних учених та фахівців з питань планування й організації бенчмаркінгу аутсорсингу ІТ-послуг. У процесі дослідження застосовуються такі методи: теоретичне узагальнення, аналіз, синтез.

Результати: розглянуті основні види та етапи реалізації бенчмаркінгу, обґрунтовано застосування концепції бенчмаркінгу в системі управління ІТ бізнес-процесів; розроблені методичні та практичні рекомендації щодо впровадження бенчмаркінгу в ІТ-сектор на засадах аутсорсингу. Встановлено зв'язок між поняттями бенчмаркінгу бізнес-процесів та аутсорсингу, дана детальна характеристику бізнес-процесів в підприємствах сфери ІТ-аутсорсингу.

Висновки: обґрунтовано створення бенчмаркінгової платформи, що підвищить інноваційну активність ІТ-компаній та сприятиме формуванню більш тісних зв'язків між ІТ-компаніями, промисловими підприємствами та органами державного управління.

Ключові слова: бізнес-процеси; ІТ-аутсорсинг; бенчмаркінг; ІТ-послуги.

Formulation of the problem. Many companies' experience confirms the effectiveness of outsourcing companies' use of IT services. Suppliers consider IT outsourcing necessary, but its serious use in Ukraine is not yet observed. There is a rather high demand for the services of Ukrainian providers from foreign customers, while national companies do not use such a management model. Increasing domestic demand for such services will have a positive impact on the development of the outsourcing market in Ukraine.

Performance Assurance is one of the levers of creating a flexible system for adapting to today's fast-paced market changes in the IT services market. Performance management is integrated into all aspects of management and decision-making processes, combining all areas of activity. Such integrativeness achieves the best results through the synergistic integration of various aspects of operations: strategic and operational management, personnel management, planning, analysis, accounting and control, appropriate methods, models, management decision support system. Sustainable growth in IT service delivery is only possible with the use of cutting-edge management technologies, one of which is outsourcing tools (as a means of finding the best IT contractor) and benchmarking (as a means of finding the best standard for delivering IT services).

The relevance of using benchmarking as a modern concept in the IT outsourcing business performance management system is driven by the need to maintain a high level of competition in both domestic and global markets, which implies continuous improvement of IT services, business processes and strategies for changing business processes and strategies. competitiveness. To support long-term competitive advantage and unique competencies, businesses need to create services that meet not only real, but also future-proof needs and meet world standards. This raises the problem of choosing the methods and directions of the improvement strategy, because the right or wrong strategic and tactical decisions determine the successes and failures of the enterprise. This requires exploring the capabilities of benchmarking as a tool to manage the performance of IT services businesses and increase their competitiveness in order to gain a better competitive position in the market.

An analysis of recent research and an unresolved part of the problem. An analysis of the literature indicates that the research carried out is very versatile. The degree of scientific development of the problem is characterized by a large number of publications devoted to basic research on benchmarking as a tool for improving the effective operating systems of business entities.

Research of benchmarking as a technology of finding the most effective types of business activity of the enterprise was carried out by such foreign scientists as R. Camp [1], R. Mann [2], F. Butler [3], G. Watson [4], J. Patterson [5], M. Spendolini [6], R. Damelio [7] and others. Outsourcing and outsourcing

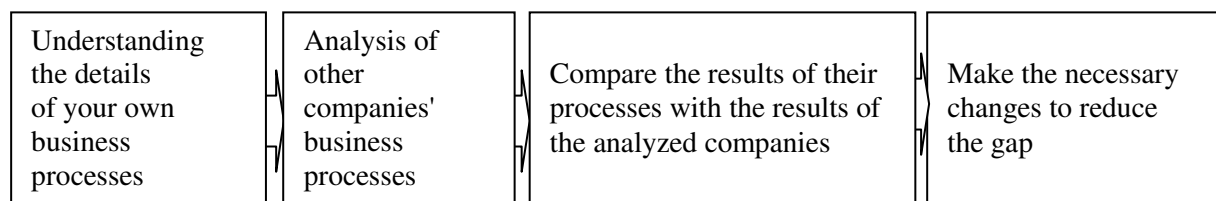
as high management technologies have been explored by J. Haywood [8], J. Cowan, K. Helmcamp, J. Hemerling, H. Hsu, M. Zinser [9].

In Ukraine benchmarking as a method of enterprise efficiency management was investigated by G. Kindratsk [10], D. Maslov [11], A. Goncharuk [12]. The effectiveness of benchmarking in the provision of various services was studied by L. Ganushchak-Yefimenko, V. Shcherbak, O. Nifatova [13], Y. Bilyavskaya [14], V. Bilyavsky [15], L. Pruss [16].

That is, scientific and practical problems related to outsourcing of services management for subjects of different economic levels, ways of finding the best examples of effective business activity have been found in the works of many domestic and foreign scientists. However, a comprehensive scientific and methodological approach to the management of outsourcing of IT services, implementation of the most effective benchmarking in Ukraine remains at the stage of formation. A significant area of research is the development and justification of the algorithm for implementation and management of IT outsourcing at enterprises, finding the means of benchmarking the stage of business activities.

The aim is to explore benchmarking technology as a tool for implementing and effectively managing outsourcing of IT services.

Research results. Benchmarking is about goal setting and is one of the components of the planning process. Some researchers combine it with a Deming cycle that includes four elements: Plan, Execute, Check, Action (PDCA). Individual benchmarking models include up to 30 steps that must be completed to achieve the end result. There is no consensus on defining the essence of benchmarking as a method for improving performance. The most generalized one is the definition of benchmarking as a means to improve the best quality practices and practices using the best practices in the field [1]. Benchmarking is an alternative method of strategic planning, in which tasks are determined not by what they have achieved, but by analyzing competitors' indicators. Benchmarking technology integrates strategy development, industry analysis and competitor analysis into a single system [4]. The process of applying benchmarking at an enterprise will be considered using the following scheme (Figure 1).



Source: [5; 6].

Figure 1. Stages of application of benchmarking

There are the following types of benchmarking:

- internal benchmarking, which is limited to analyzing and comparing the performance of different business units of the same enterprise;
- competitor-oriented benchmarking, focused on comparative analysis of goods (works, services), productivity of production processes and other parameters of the studied enterprise with similar characteristics of competing enterprises. It is considered that the best analogue for comparison is the "market leader". Identification of the factors that cause a backlog of the company under study from the leader, makes it possible to develop recommendations for reducing the backlog;
- Functional benchmarking, which analyzes individual processes, functions, methods and technologies in comparison with other enterprises that are not competitors of the considered. Companies that use similar methods, techniques or technologies, and are not competitors, are willing to exchange mutual primary information and are interested in implementing joint projects aimed at improving comparable operations;
- process benchmarking: study and compare process characteristics;
- general benchmarking: comparison of the specific function of several enterprises of different sectors of activity;
- strategic benchmarking: studying successful strategies of partner companies;
- Global benchmarking: study of the culture and national characteristics of the enterprise.

One of the most successful business models that provide competitive advantage is outsourcing, which can help reduce costs for non-core business areas. The outsourcing practice of IT services is widespread in the world and is carried out through projects that are outsourced (high quality providers). Some companies use outsourcing not only to redefine certain internal processes, but also to seriously improve key business opportunities. Therefore, it is advisable to use functional benchmarking to find the most effective way of performing this function.

Enterprise outsourcing management is a complex activity aimed at achieving an efficient result with the lowest cost of resources. That is why, before outsourcing business processes, it is advisable for each enterprise to undertake some preparatory work, develop or adapt an existing outsourcing management and implementation model.

It is possible to propose such algorithm of transition and management of outsourcing at the enterprises on the basis of benchmarking: formalization of business processes; creating an internal service level agreement; an analysis of the allocation of resources needed to implement outsourcing; risk analysis,

performance evaluation; search for a leader in this function; analysis of outsourcing efficiency.

The first step towards outsourcing is the formalization of business processes. Businesses that are in the process of formation or rapid growth have a volatile business model, so they should not be outsourced to perform their functions. The structure of their business processes can change quickly, and a contract with a supplier for a certain period will prove outdated. However, if the decision to outsource outsourcing is still made, then a hierarchy must first be created: from business goals through business processes to IT services consisting of IT processes.

The next step is to formalize the business requirements for IT by drawing up a single Service Level Agreement (SLA). The SLA describes the services provided by the IT business service. Signing an SLA is a common worldwide practice that enables an enterprise to improve the quality of its IT support, get a clear budgeting policy for IT services, and refuse to purchase unnecessary services, as well as justify changing the IT service provider.

The choice of services for "potential outsourcing" and "potential outsourcing" can be guided by the following factors: the importance of the service to the business, the stability of the business requirements to providing the service, the internal efficiency of the service, the criticality of the service (promptness, reliability, information security), the novelty of services for companies, availability, quality and value in the market [9]. When the need for outsourcing is justified, it is necessary to find a supplier and enter into a cooperation agreement. In this step, the customer is ready for direct communication with potential contractors. It is very important to choose the right model of cooperation with the service provider (Table 1).

Table 1

Models of collaboration with outsourcing providers

| Type of model Working conditions | Fixed price | Hourly payment |
|-------------------------------------|----------------------------------|--|
| Fixed term | Fixed | Fixed |
| Price | Fixed | Fixed price limit |
| Functionality | Fixed | Non-fixed |
| Payment | Step-by-step or after completion | Only pay for the implemented functionality |

Source: [8; 9; 14].

The choice of model depends on the tasks assigned by the service provider's management. The first model is the most risky for developers and the most favorable for the client. All risks belong to the developer because the client may not pay for the services as long as possible. Hourly payment can be risky

for the client and will not allow you to build long-term relationships. It is important for each client to have control and the ability to influence the project team, the service provider company, and the performance.

Prerequisites for effective IT outsourcing are to monitor the parties' compliance with the terms of the agreement, to track and record changes in business requirements for IT. There are two levels of control over the implementation of SLAs. The first is compliance with the internal SLA (highest priority). At the second level, control over the execution of external SLA conditions is implemented [17]. These levels are interrelated: failure to comply with the provider's external SLA may result in failure to comply with the internal agreement. Important aspects of control are the tracking, harmonization, and modification of the SLA's internal agreement regarding new service requirements and their quality. This process involves regular communication between employees of the business units of the customer and the representative of the provider.

In today's economic environment, outsourcing is a popular tool for managing key business processes of enterprises. However, the percentage of successfully implemented projects is low. Coverage of risk analysis and cost-effectiveness assessments should help an enterprise improve its performance through outsourcing.

Risk analysis has a significant impact on the successful decision making on outsourcing. Despite the benefits of outsourcing, it is important to keep in mind that using it will put you at risk of leaking sensitive information. As a result, there may be a direct competitor who has such experience.

Another feature of outsourcing is the possible loss of control over one's own internal resources, as well as the removal of management from the company's activities. The result is a decrease in staff productivity. There is also the risk of bankruptcy of the outsourcer, forcing the company to look for an alternative supplier or perform the work on its own. The outsourcer may have the monopoly power on which the customer's business depends. This situation is characteristic of the underdeveloped market of this type of services. Ranking method should be used for more detailed risk analysis. The risk matrix is used for this purpose (Table 2).

Table 2

Risk matrix

| Probability Implications | Low | Low | Medium | High |
|-----------------------------|-------------|-------------|---------------|---------------|
| Critical | Medium Risk | Medium Risk | Critical Risk | Critical Risk |
| Significant | Medium Risk | Medium Risk | High Risk | High Risk |
| Medium | Low risk | Medium risk | Medium risk | High risk |
| Insignificant | Low risk | Low risk | Medium risk | Medium risk |

Source: [17; 18].

Ranking criteria are the likelihood of occurrence and the nature of the consequences of the risks. The latter is usually determined by the possible loss of the enterprise budget (Table 3). An example of a catastrophic ranking scheme is the risk of loss of intellectual property, technological control, quality, etc. Ranking results (risk sharing) can depend on many factors: the reputation and experience of the service provider; market situation; experience of cooperation of the company with service providers and others.

Table 3

Ranking the risks of outsourcing IT services based on the nature of the impact

| Rank | Value | Budget Loss, USD | Risks of outsourcing |
|------|--------------|--------------------|--|
| 4th | Catastrophic | 1 million < | Loss of technological control; inability to manage the enterprise; loss of intellectual property |
| 3rd | Critical | 200,000 –1 million | Confidential information leakage; bankruptcy of the provider |
| 2-th | Minimum | 10 - 200 thousand | Inefficient expenses; tax risk; lack of effective project management |
| 1st | Minor | 2-10 thousand | Decrease in productivity of personnel |

Source: [18].

The probability of occurrence of risks is classified as follows: rare, unlikely, possible, very probable, determined (Table 4). The criterion should be measured quantitatively and assigned a logical risk rank.

Table 4

Ranging the risks of outsourcing IT services by the probability of occurrence

| Rank | Value | Likelihood of occurrence over the life cycle of the business | Risks of outsourcing |
|------|-------------|--|---|
| 5th | Determined | Every 2 years | Inefficient expenditure of funds |
| 4 th | Very likely | Every 4 years | Reduced productivity of own staff |
| 3rd | Possible | Every 6 years | Tax risk, loss of technological control |
| 2nd | Unlikely | Every 12 Years | Leakage of Confidential Information |
| 1st | Rare | Every 24 Years | Service provider bankruptcy |

Source: [18].

For example, the bankruptcy of an IT service provider is very rare if the company intends to partner with an experienced partner who has long been active in the market. While inefficient spending is a well-defined risk, it is often a lack of interaction between the customer and the contractor. To mitigate the potential negative effects, reduce the risks, it makes sense to: 1) maintain the

production of the most valuable products in the company; 2) adjust the production of critical components in the organization so that the product cannot be reproduced; 3) to carry out careful monitoring; 4) to resort to patent protection, to develop strict contracts that exclude double interpretation; 5) invest in projects for training, training, programs to encourage service providers; 6) carefully select and monitor the outsourcing market; to develop short-term contracts with stringent conditions [17].

In addition to risk analysis, it is very important to calculate the potential economic impact of outsourcing. There are many methods for determining the effectiveness of outsourcing. Several approaches to assessing outsourcing performance have emerged in international practice. The application of each method depends on the resources available in the enterprise. The most popular are budget and project approaches [8; 9].

The budget approach is most commonly used to evaluate IT implementation projects in a company. In form, it is a table of the IT-portfolio of the organization. It provides complete descriptions of the organization's business processes, as well as some guidelines for optimizing funds. According to modern financial theory, there are 4 ways to calculate the effectiveness of a particular project for the company: return on investment, payback period, net profit from the project, internal profitability.

To calculate net present value (NPV) or internal profitability, many parameters (capital cost, tax effect, residual value) that are often difficult to obtain in an enterprise must be kept in mind. Therefore, the following formula for calculating economic efficiency can be applied [8]:

$$E_{outs} = \frac{\sum internal\ costs}{\sum outsourcing\ costs}, \quad (1)$$

where E_{outs} – outsourcing efficiency;

$\sum internal\ costs$ – the sum of the costs of performing functions through internal resources;

$\sum outsourcing\ costs$ – the amount of costs for outsourcing functions.

If the outsourcing efficiency is > 1 , then the economic effect is positive, it should be implemented. If efficiency is < 1 , then the effect is negative, and therefore outsourcing is not economically justified. This approach to performance appraisal is basic, thus helping to determine the impact of implementation on a logical level. If necessary, further detailed calculations of NPV, Internal Rate of Return (ROI), etc. can be made.

For example, the Galnaftogaz concern needs to upgrade its entire IT infrastructure to implement a project of quality control at OKKO filling stations. To complete the task, management intends to find an outsourced contractor and outsource it to the system for 3 years. In the process of benchmarking and

outsourcing, LLC Engler Scientific and Production Enterprise was found. At the same time the enterprise has the opportunity to accomplish this task with the help of internal resources (workers of IT department). The outsourcing service provider estimated the contract value at UAH 2 850 000. The effectiveness of IT outsourcing implementation at the enterprise with the involvement of internal resources and compared to the cost of outsourcing contract is given in Table 5.

Table 5

**Annual calculation of costs for the performance
of work with own resources, UAH**

| Costs | 2016 year | 2017 year | 2018 year |
|--|------------------|--------------------|---------------------|
| Wage Fund | 720 000 | 792 000 | 871 200 |
| Single Social Contribution | 264 816 | 291 297,6 | 320 427,36 |
| Cost of equipment | 130 000 | – | – |
| Conducting systematic training courses for workers | 50 000 | 50 000 | 50 000 |
| Total | 1 164 816 | 1 133 297,6 | 1 241 627,36 |

Designed by the author based on his own research.

These costs can be used to calculate the cost-effectiveness of outsourcing:

$$E_{outs} = 5,946\ 184.32 / 2,850,000 = 2.1$$

The calculation shows that the economic impact of implementation > 1 is positive. Thus, outsourcing is expected to save resources, reduce costs, and improve the quality of work. Information on the experience of applying the chosen method of performance analysis over a long period is required to determine accurate estimates.

Management should carry out a thorough cost-effectiveness analysis and risk assessment before undertaking outsourcing. To simplify these procedures, it is possible to involve independent business process outsourcing consultants. Applying the practical experience of outsourcing management will increase the likelihood of its successful implementation and, as a consequence, will bring the enterprise to a new level of competitiveness in the global economy.

Conclusions and prospects for further research. Outsourcing management is a complex and complex process that requires successful risk analysis, cost-effectiveness assessment, control, etc. to be successful. The scientific novelty of the obtained results is the formation and justification of the algorithm of implementation and management of outsourcing at the enterprise; ranking IT outsourcing risks based on the nature of the consequences and the likelihood of the occurrence; development of a simplified method of evaluating the effectiveness of implementation at the preparatory stage. The topic needs

further exploration of the methods of justifying the economic feasibility of outsourcing; adaptation of the management algorithm for enterprises of different industries, taking into account the specificity of their activity; creation of an outsourcing risk management mechanism at different stages of the project lifecycle.

The practical significance of the obtained results is that using the algorithm, enterprises will be able to implement the outsourcing management model of IT services in internal systems and increase their competitiveness. The gradual increase in internal demand for IT outsourcing services will have a positive impact on the dynamics of the industry.

The considered approach to the research of benchmarking technology as a basis for ensuring the efficiency and increasing the operational efficiency of domestic enterprises, can be regarded as one example of finding alternative ways of solving the problem, which can later be used to create objective prerequisites and methodological basis for the study of the systematic approach to the development of the operating strategy enterprises.

Investigating this topic, we can draw the following conclusions about the use of benchmarking in managing a company in the current environment of enterprise globalization:

- benchmarking is necessary, first and foremost, to "keep your hand on the pulse of competitors" and have a real idea of your place in a changing business world;

- benchmarking can be a powerful motivating factor as a source of information for employees about the results of their counterparts from competing companies;

- it is useful to use any opportunities for the development of formal and informal contacts with partner and competing companies;

- benchmarking cannot be a one-off analysis; in order to obtain proper efficiency from the application of this process it is necessary to make it an integral part of the process of business innovation;

- in recent years, organizations such as government agencies, hospitals and universities have also begun to discover the benefits of benchmarking and apply its core tenets to improve their processes and systems;

- the practical value of benchmarking is that it compares not just the core performance of two or more organizations, but also compares the causes and outcomes of particular actions.

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