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THE WAYS OF OBJECT-ORIENTED PROGRAM MANAGEMENT APPROACH IMPLEMENTATION IN INDUSTRIAL ENTERPRISES ACTIVITY

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The article identifies a number of characteristic features notified by domestic and western scientists as inherent for object-oriented program management approach at enterprises. Based on the research of machine building enterprises in Lviv region there are determined the basic tasks for this approach implementation. There has been made an attempt to develop ways of the object-oriented program management approach implementation at industrial enterprises according to their level of competitiveness, strategic priorities, investment options and employees' professionalism.

Key words: object-oriented program management approach at enterprise, object-oriented program, program management, industrial enterprises.

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ШЛЯХИ ЗАСТОСУВАННЯ ПРОГРАМНО-ЦІЛЬОВОГО ПІДХОДУ УПРАВЛІННЯ У ДІЯЛЬНОСТІ ПРОМИСЛОВИХ ПІДПРИЄМСТВ

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Виділено ряд характерних ознак, які відзначають вітчизняні та західні науковці, програмно-цільового підходу управління підприємствами. На основі дослідження машинобудівних підприємств Львівщини окреслено основні завдання впровадження цього підходу. Наведено спробу розробити шляхи застосування програмно-цільового підходу управління промисловими підприємствами, відповідно до їх рівня конкурентоспроможності, стратегічних пріоритетів, інвестиційних можливостей та професіоналізму працівників.

Ключові слова: програмно-цільовий підхід управління підприємством, цільова програма, управління програмами, промислові підприємства.

Statement of the problem

The object-oriented program management approach for enterprises often is considered in domestic scientific literature as a plan of activities, developed according to objectives, tasks and limitations of material, financial, labor resources, and oriented on a solution of important problem. According to this view object-oriented program management approach is very close to a project management approach, therefore, foreign scientist's makes emphasis to describe a sufficient difference between this approaches and how the programs and projects are interacting with each other. Also, is not defined the features of using program management in enterprises according to their competitiveness, strategic priorities, investment abilities and professional level. There for, foreign scientists are substantiating expediency of using different ways to a program and project management according to strategic priorities of enterprises.

Analysis of recent research and publications

The essential definition of object-oriented program management approach for enterprises, as it is given in domestic scientific literature may be described as follows: according to a defined problem the object-oriented program is developing; its task is to ensure most optimal way of problem solution, and provides integration in general way all of its stages. The main components of object-oriented program are:

1. Problem, that must be solving;
2. System of objectives and tasks of its achievement;
3. Terms of objectives and tasks achievement;
4. Resources: material, financial, labor and informational;
5. Performers: managers and executors of each of stage;
6. Indicators of effectiveness: financial and non financial.

There may be identified a number of characteristic features, which are inherent to object-oriented program management approach for domestic industrial enterprises:

1. Oriented on solution of important problem in enterprises activity. The manager of the object-oriented program and its target group are endowed with broad authority and are released from their main functional duties [1]. The program may be also an instrument of creating general enterprises strategy [2] and assumes the high level of informing about condition and perspectives in external and internal environment development.

2. The system of objectives and operation. Program must ensure the enterprises orientation to achieving objectives, and gives an opportunity to establish the fact of their achievement [4, p.197]. The differentiation of main objectives till specifying all operation and on this basis matrix “objectives-recourses” is providing [5]. Such a differentiation can be carried as: objectives-ways-methods-resources [6], program-subprogram-event-operation [4, p.199].

3. The integrity of program activities within the existing organizational structure. Program is not the sum of actions, but is a system of interrelated tasks which provides achieving a synergistic effect [3]. The activities of program are allocated of the total flow of activities, and organizational structure is formed under the problem, but not vice versa [1]; management focuses on the coordination of program elements. This approach provides an opportunity to increase the efficiency of developed programs, and compounded the control function [2]; it is performed normative regulation of responsibility [3].

4. The mechanism of resources using optimization. The objectives and resources comparison in order to achieve a balance in resources spending according to the tasks [4, p. 197], allows to raise efficiency of resources using and evaluate their effectiveness [2].

5. Effective method of innovations implementation. The interconnection between innovations becomes more possible [7], and adjustments to the innovative project become faster [1]. This method contributes an adaptation to variable conditions of the external environment [5].

Instead, a number of foreign authors define object-oriented program management approach as complex system of coordinating set of existing projects, or those that will be developed in enterprise [8, p.31]. If the project aims is to create finished product, task of the program is to generate results – complex improvement of the enterprises. The program management process unites a set of projects and reflects the often complex connections between them; its task is to select the best projects. Project management sometimes is identified as the program management, but program – it is actually a higher level: group of interdependent projects [9].

The formulation of objectives

1. Identify the main tasks of object-oriented program management approach in industrial enterprises;
2. Identify a ways of object-oriented program management approach providing in industrial enterprises, matched to their opportunities and development priorities.

Presentation of main materials

For identifying the main tasks of object-oriented program management approach in industrial enterprises lets analyze a number of financial and economic activities indicators of the four machine-building enterprises in Lviv area: PJSC “Iskra”, PJSC “LLRZ”, PJSC “DZAK” and PJSC “Konveyer” [11].

**The analysis of financial and economic indicators in Lviv region
machine-building enterprises activity at 2011 and 2012 years***

| Enterprise | Property of enterprise | | | Proceeds | | | Profits (losses) | | |
|-----------------|------------------------|--------------|----------------------|--------------|--------------|----------------------|------------------|--------------|----------------------|
| | 2011 year | 2012 year | Devi- ation, % | 2011 year | 2012 year | Devi- ation, % | 2011 year | 2012 year | Devi- ation, % |
| PJSC “Iskra” | 476400 | 499446 | +5 | 344271 | 323943 | -6 | 11705 | 2491 | -79 |
| PJSC “LLRZ” | 186297 | 240323 | +29 | 293550 | 319222 | +9 | 4334 | 6480 | +50 |
| PJSC “DZAK” | 179340 | 151117 | -16 | 95774 | 63920 | -33 | -33200 | -27508 | - |
| PJSC “Konveyer” | 33180 | 29359 | -12 | 16462 | 17220 | +5 | -2137 | -3016 | - |

* in thousand hryvnias

The profits decrease in PJSC “Iskra” in 2012 year was equal 79 %, although the volume of sales decreased only by 6 %, and indicating that the profitability decrease. At PJSC “LLRZ” increase of assets in 2012 was 29 %, profits – 50 %, and demonstrates financial stability and high profitability. The situation at the PJSC “DZAK” is quite difficult – we see a decrease in all analyzed parameters. PJSC “Konveyer” against a background of decreasing the value of assets (–12 %) in 2012 year we see an increase of proceeds (+5 %) and reduce of losses.

As for the given machine-building enterprises, for many domestic industrial enterprises are inherent outdated equipment, insufficient the professional level of employees, operating in conditions of unstable tax legislation, unfair competition, the risk of raw materials not supplying occurs. It is advisable to identify following tasks of object-oriented program management approach:

1. Implementation and project portfolio management;
2. Implementation the investment project;
3. Generating the object-oriented management approach and focus efforts at certain area of strategic change;
4. Planning the improving of production capacities and technical potential usage, organizational change, etc.;
5. Realization technical and industrial modernization, innovative products implementation, improving the innovation potential.

Modern enterprises are increasingly applying Project Portfolio Management (PPM) that allows choosing the highest priority projects and then using methods of project management [12]. The task of PPM is to “implement the right projects” and the task of project management methods – “implement projects correctly” [9]. The portfolio of projects can represent a program and process of such portfolio achieving – as object-oriented program management approach.

In 2011 year the consulting company “Management Technologies Spider Ukraine”, that is a part of International Group of Companies “Spider Project Team” provided rating of project management maturity in the Ukrainian enterprises [13]. According to this study among the leaders in applying project management system are: “MTS-Ukrayina” – 272 points, “UkrSybbank” – 264 points, a Subsidiary Bank “Sberbanka Rossii” – 255 points, “Miratekh” (information technology) – 249 points, MDEM (shipbuilding) – 249 points, “Amstor” (supermarkets chain) – 249 points, “Incom” – 247 points (information technology), and in 18-th place – machine-building company, Industrial Group U. P. E. K. – 219 points. Results of the analysis are as follows: companies of almost all industries have providing a project approach. At the enterprises of those industries where project approach has been used for a long time, is observed the transition from a single project management to a project portfolio management.

Among foreign scientists there are two points of view on what is the difference of program management and project management approach [8, p.75]: 1) the program represents a complex projects; 2) the program is a large project. The approach of Ukrainian scientists in overwhelming majority is closer to the second – when the program management in fact is alike the project management approach.

Thus, it would be expedient to explore the possibility of finding a ways for providing object-oriented program management approach in engendering enterprises, according to their level of competitiveness, strategic priorities, investment opportunities and employers professional skills (table 2).

Table 2

The ways of object-oriented program management approach implementation in industrial enterprises

| Typical aspects | The ways | | |
|--------------------------------|---|--|---|
| | Object-oriented | Systematic | Project |
| Clarity of terms definition | The date of completion in every stages are established clearly, but may be corrected by appropriate changes in the external environment and occurrence of unexpected situations in the internal environment. | For projects that are included in the program observance of terms is required, but in within the program allowed substantial corrections during implementation. Sometimes the program has an unlimited term of realization, or until desired result would not be achieved. | The manager must strictly follow for terms, tasks and particular activities fulfillment. The approach on many parameters similar to the project approach. |
| Problem and object orientation | Real changes for improving the enterprise activity must be achieved. Complete or partial solution to the problem is more important than strictly performance of all program objectives. Priority is given for a general over partial. | The task is to achieve objectives that are common for a set of projects and ensure growth of company profits. The program becomes a major factor that integrates projects portfolio. | The task of the program is clearly formulated problem solving and achieving objectives in accordance with the terms, resource limitations and performance indicators. |
| Estimation of efficiency | The primary objective is achieving common performance indicators – growth of profit, competitiveness, innovation implementation and others. | The task is to develop indicators for determining the total effect of projects portfolio implementation and achieving a synergistic effect. | A complex system of indicators must be developed, according to which the assessment of results – from general performance indicators to specific activities. |
| Applying | Enterprises that have defined the strategic development priorities, aimed at the strategic transformations, able within the organizational structure single out subsystems that will be combined within the object-oriented program. | Enterprises that are using the project management approach and integration of projects in a general direction are important task for them. | Can be successfully applied as an instrument of investment project implementation. For enterprises, that operates in a relatively stable environment and is available reliable system of resources provision. |
| Manager task | The program manager has enough knowledge of strategy priorities able to give a proper assessment of internal and external environment factors, provide correctives. | Program manager coordinates activities of project managers, solves conflicts between involved in projects employers, mutual balance of implementation of each project. | The program manager is released from his main functional duties, provides control over all phases of the program. Projects are formalized, change management is well developed. |
| Functions of Management | Organization and motivation becomes more important, than planning. The program becomes a reference point for enterprises development but a corrective in accordance to variable external environment are used. | The primary task of program management is a function of coordination and provides the projects implementation process in order to achieve a synergistic effect. | Important role is given for planning and control. It should be maximized a compliance of objectives to enterprises opportunities and performers professional level. |

It is proposed to identify three such a ways:

1. Systematic. When program is understood as portfolio of projects that should be aimed in a single line to solve a strategic character problems. It corresponds to the western approach of programs and projects managing. The task of program is achieving optimal choice of the best projects and forming relationships between a set of projects.

2. Project. The program is regarded as a system of objectives and activities, with precise definition of terms, cost of resources for their realization, performers at each stage and indicators of efficiency. Program manager must ensure most accurate achievement of objectives according to the terms.

3. Object-oriented. According to this approach, primary task of the program is achieving a system changes in the enterprise and increasing the social and economic efficiency. Strict adherence to the objectives, terms and planned volumes of spending is not a primary task and can be modified during the program implementation. The emphasis in such a case refers on the object-oriented management, rather than strictly programs implementation. During development the program thoroughly examines problems and opportunities of its solution under various conditions.

Conclusions

1. In domestic scientific literature object-oriented program management approach in enterprises often is considered as a plan of measures, developed in accordance with the objectives, tasks and limitations of material, financial and human resources, focused on solving certain important problems. According to this view program management is very close to the project management approach, instead, making emphasis to indicate essential difference and Interconnections between them is weary important task.

2. We can identify a set of tasks for implementation object-oriented program management approach in enterprises according to their strategic priorities: 1) Implementation and Project Portfolio Management; 2) Implementation the investment project;

3) Generating the object-oriented management approach and focus efforts at certain area of strategic change; 4) Planning the improving of production capacities and technical potential usage, organizational change, etc.; 5) Realization technical and industrial modernization, innovative products implementation, improving the innovation potential.

3. This article examines the ways of using the object-oriented program management approach according to their level of competitiveness, strategic priorities, employers' professional skills and investment opportunities. It is proposed to identify three such a ways: 1) systematic; 2) project; 3) object-oriented; they are considered in the context of such typical aspects: clarity of terms definition, problem and object orientation, estimation of efficiency, applying, manager task, functions of management.

The prospects for further research

More detailed research of opportunities for integration the foreign experience of program management approach to a domestic enterprises activity is expedient. Examined in the article ways of using the object-oriented program management approach is advisable to deepen in order to develop an integrated methodology of their applying.

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