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ACCOUNTING AND ANALYTICAL SUPPORT FOR INVESTMENT IN INNOVATION: NATIONAL AND INTERNATIONAL STANDARDS

ОБЛІКОВО-АНАЛІТИЧНЕ ЗАБЕЗПЕЧЕННЯ ІНВЕСТИЦІЙ В ІННОВАЦІЇ: НАЦІОНАЛЬНІ ТА МІЖНАРОДНІ СТАНДАРТИ

The article presents an examination of the issue of the methodical accounting of investments in innovative activities of the enterprise. A review of the domestic and international regulatory framework and scientific literature reveals an absence of a clear mechanism for accounting for enterprises' investments in innovative activities. The article identifies the differences between invention and innovations from the perspective of accounting, taking into account their development and implementation stages. A methodical approach to the accounting and control of investments in innovation is put forth, based on the definition of the essential feature of the anticipated outcomes from the implementation of such investments. The proposed approach allows for the creation of an effective system of accounting and analytical support for investments in enterprise innovations, in accordance with the requirements of national accounting regulations (standards) and international accounting and reporting standards.

Key words: accounting, audit, control, investments, innovations, international accounting and reporting standards.

У статті досліджено питання методичного забезпечення обліку інвестицій в інноваційну діяльність підприємства. На основі проведеного аналізу вітчизняної та міжнародної нормативної бази та наукових праць доведено відсутність чіткого механізму обліку вкладень підприємств в інноваційну діяльність. Визначено відмінності інновацій та новацій з точки зору бухгалтерського обліку за етапами їх розробки та впровадження. Кінцевим результатом етапу проведення досліджень є оцінка отриманих результатів підприємством-новатором. Для цього необхідно надати відповідь на питання, чи може підприємство довести технічну реалізованість проєкту та його економічну ефективність (умови визнання). При отриманні позитивних відповідей на умови визнання життєздатності отриманих результатів етапу дослідження переходять до другого етапу – розробки інноваційного продукту, послуги, сервісу. Витрати першого етапу включаються до поточних витрат підприємства, що дозволяє прискорити час їх відшкодування. Витрати другого етапу відносяться до собівартості створеного активу. Залежно від виду такого активу (оборотний чи необоротний), буде відрізнятися механізм відшкодування понесених на даному етапі витрат. Запропоновано методичний підхід до обліку та контролю інвестицій в інновації на основі визначення сутнісної ознаки очікуваних результатів від здійснення таких вкладень. Виділення окремих етапів аналізу інноваційного процесу як об'єкту бухгалтерського обліку дозволило запропонувати методичний підхід до його відображення в системі бухгалтерських рахунків. Для обліку інвестицій підприємствами-новаторами визначено можливі варіанти залежно від форми кінцевого результату від них: новий (удосконалений) продукт (сервіс, послуга) – оборотний актив; нова (удосконалена) техніка, обладнання, нематеріальні активи – необоротний актив, що може бути реалізований або використаний в подальшому цим підприємством. Запропонований підхід дозволяє побудувати ефективну систему обліково-аналітичного забезпечення інвестицій в інновації підприємств з врахуванням вимог національних положень (стандартів) бухгалтерського обліку та міжнародних стандартів бухобліку та звітності.

Ключові слова: бухгалтерський облік, аудит, контроль, інвестиції, інновації, міжнародні стандарти обліку та звітності.

Statement of the problem. The development and competitiveness of companies directly depend on investments in innovation. A review of analytical reports by international rating agencies proves this thesis at the macro and international levels. Countries that are leaders in terms of innovation activity also rank first in terms of economic development and international competitiveness. At the micro level, the initial information base for analysis is accounting data. It is the information in the financial statements that makes it possible to determine the economic situation of the company, its availability of financial and other resources, including current and non-current assets. Analytical accounting information reveals the components of the company's assets and the degree of their use. Investments in innovations have their own specific features, in particular, a high degree of unpredictability of the expected results and the duration of their implementation. Understanding the nature of these investments at different stages of their life cycle is the basis for their accurate accounting. This makes it possible not only to more reliably determine the amount of costs and revenues for innovation projects, but also to monitor investment costs and revenues using audit procedures. Thus, it is important to develop accounting and analytical support for investment in innovation, taking into account the requirements of national and international accounting and reporting standards.

Analysis of recent research and publications. The issues of innovation and investment activity have been studied by many domestic and foreign scholars. In particular, the peculiarities of assessing the effectiveness of investment in innovation have been deeply studied by Benlemlih M., Bitar M [1], Gao R., Yu X. [2], Keum D. [3], Bessonova A., Komarov A. [4]. Scientists have outlined the issues of determining the amount of investment costs, forming the revenue side of innovative projects, and assessing their economic efficiency [5]. Hrybovska Yu. [6], Hrynyk O. [7], Makarovych V. [8], Lehenchuk S., Vyhivska I. [9] investigated the issue of accounting for costs, including development, research, etc. It should be noted that there is a significant regulatory framework governing legislative issues related to the implementation of innovation and investment activities [10], methodological aspects of cost accounting and their reflection in financial statements, in accordance with the requirements of domestic and international legislation [11–14]. However, the issue of accounting and analytical support for investment in innovation, taking into account the peculiarities of identifying these costs in accordance with the stages of the life cycle and expected results, taking into account the requirements of national and international accounting and reporting standards, requires additional research.

Formulation of the research task. The article is aimed at improving the methodological approaches to accounting and controlling investments in innovations on the basis of the essential identification of the nature of these costs and the expected result. Implementation of the proposed recommendations is expected to result in improvement of analytical support of information on investments in innovations based on the application of national and international accounting and financial reporting standards, formation of a base of accounting and analytical support for these operations at the company level.

Summary of the main research material. Innovative activities require significant investments and carry a high degree of risk. Such investments are usually classified as venture capital investments, i.e., high-risk investments. We believe that timely accounting and audit of innovation costs can reduce the degree of risk and minimise losses from such investments. The peculiarity of these investments is a high degree of uncertainty, which does not allow making a reliable decision on their effectiveness. According to the Law of Ukraine “On Innovative Activity” [10], innovations are newly created (applied) and (or) improved competitive technologies, products or services, as well as organisational and technical solutions of a production, administrative, commercial or other nature that significantly improve the structure and quality of production and (or) the social sphere. This concept should be distinguished from the concept of invention. In particular, an invention involves the creation of something new or the improvement of an existing product, technology, etc. Innovations, on the other hand, involve creating new value or increasing the value of something that already exists. In other words, from an investment perspective, an invention is an investment that is not yet known to bring any benefits in the future. Instead, an invention becomes an innovation when it begins to bring some benefits from its application, i.e., a commercial effect. The result of an innovation activity can be an innovative product, service or process. These results may be developed and implemented by the same enterprise, or different enterprises may develop and implement innovations. Accordingly, there is a need to identify investments in such developments from an accounting perspective, as different accounting procedures, accounts, documents, etc. will be involved. The problem is the lack of a clear mechanism for reflecting the costs of innovation in accounting. Taking into account the requirements of international standards (IAS 38) and national accounting standards (National Regulations (Standards) of Accounting 15 “Revenues”, 16 “Expenses”, 7 “Fixed Assets”, 8 “Intangible Assets”, 5 “Inventories”), we propose a logical sequence of actions to reflect the costs of research and its further implementation in Figure 1.

Stage 1 involves investments in research that the enterprise conducts for the first time to obtain and understand new scientific and technical knowledge. For example, the following activities may be carried out at this stage:

- activities aimed at obtaining new knowledge;
- search, evaluation and final selection of the application of research results or other knowledge
- search for alternatives to materials, devices, products, processes, systems or services
- formulation, development, evaluation and final selection of possible alternatives to new or improved materials, devices, products, technological processes, systems or services.

Such research expenditures are recognised as an expense as incurred. In accordance with the chart of accounts [14], such expenses may be recorded in accounts 39 “Prepaid expenses”, 941 “Research and development expenses” in correspondence with the relevant elements of direct expenses, incurred at this stage (13 “Depreciation of non-current assets”, 20 “Inventories”, 22 “Low-value and quickly wearing items”, 66 “Settlements

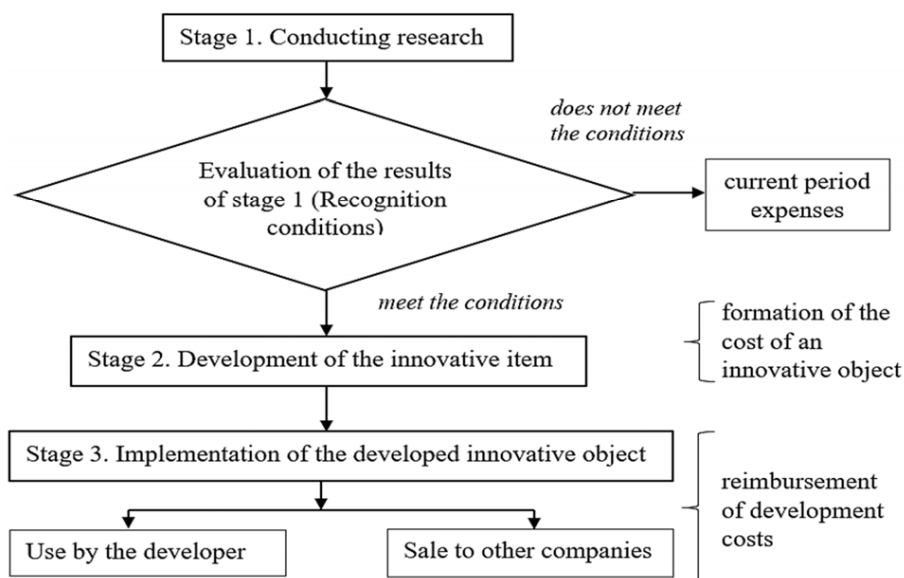


Figure 1. Formation of innovation costs in accounting

Source: author's development

on payments to employees”, 65 “Settlements on insurance”, 63 “Settlements with suppliers and contractors”, etc.).

At the end of Stage 1, the innovator company must evaluate the results obtained. To do this, it is necessary to answer the following questions – whether the company can prove the following provisions (recognition conditions):

- the technical feasibility of completing the asset so that it is available for use or sale;
- its intention to complete the asset and use or sell it;
- its ability to use or sell the asset;
- how the asset being created (improved) will generate probable future economic benefits, as well as the existence of a market for the asset itself, or its usefulness;
- availability of appropriate technical, financial and other resources to complete the development and use or sell the asset;
- its ability to measure reliably the expenditure attributable to the asset during its development.

In this context, an asset is defined as an asset being created or improved that will generate economic benefits in the future. It may be machinery, equipment, technology or other intangible asset; products or services that the innovator will produce in the future and sell to consumers; developed (improved) product/service, technology that is sold to other companies for implementation (use) by other companies.

If the innovator answers the above questions (recognition conditions) in the affirmative, then further expenses will be charged in the accounting records to the appropriate account for the formation of the cost of the innovative product, service or activity.

In the case of creation of an innovative object (stage 2) that will have a useful life of more than one year (equipment, machinery, intangible assets, etc.), such costs will be subsequently recorded in account 15 “Capital investments” with the choice of the appropriate subaccount. Upon completion of the creation of such an innovative asset, all expenses accumulated in the debit of the relevant subaccount 15 are transferred to the debit of the relevant non-current asset account.

Innovative activities may result in the creation of new types of products (goods, works, services), i.e., current assets. In this case, the costs collected by debiting account 941, including the costs of research, preparation and development of production of new products (goods, works, services), will be written off to production (account 23). The cost of innovative products (goods, works, services) determined in this way will be taken into account when setting their selling price (at stage 3).

If the company did not develop from scratch, i.e., acquired an innovative asset from an innovator and carried out additional work (research, improvement, etc.), then such an acquired object will be included in capital investments in account 15 or in production inventories (account 20).

Thus, we believe it is necessary to identify two key issues for determining the accounting accounts for innovation investments:

- 1) in what form the innovative development will be presented – products, services, services (current assets) or machinery, equipment, technology, software product (non-current assets);
- 2) at what stage the company makes such investments – at the first stage (research) or at the second stage, when the economic feasibility of the project has been proven.

The answers to these questions allow us to make a decision on whether to write off these costs: to include them in the cost of innovation or in current expenses. This question is key to determining the final financial result of innovation activities. Including investments in research costs allows the company to include them in the current period's expenses and take them into account in the current period's financial results (decrease in profits). If the investment costs are included in the cost of innovative products (services), i.e., in current assets, such costs will be reimbursed at the date of recognition of income from the sale of such current asset (innovative product, service, or service). If the investment in innovation results in a non-current asset (equipment, machinery, intangible assets) that

will be used by the developer for more than one year, such expenses will be reimbursed gradually by depreciating the newly created non-current asset.

Conclusions. Investments in innovation are a necessary element of ensuring the competitiveness of an enterprise. Accounting is the source of information that allows analysing and controlling such expenses and related income.

The carried out analysis of the regulatory support for accounting for investments in innovation in accordance with the requirements of national and international accounting and reporting standards allowed to build a scheme of

logical analysis of operations on investment in innovation for their further reflection in accounting. The key questions have been identified, the answers to which allow choosing one of the proposed options for reflecting these costs in accounting. The proposed methodological approach to accounting and analytical support of investments in innovations allows to implement a transparent mechanism for their control and audit based on accounting data. Further research requires taking into account the industry-specific features of the accounting support for investment and innovation activities of enterprises.

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