Recognition of research and development in the financial statements according to IFRSs

Renata Hornická [1]

[1] University of Economics
Faculty of Economic Informatics, Department of Accounting and Auditing
Dolnozemská cesta 1, 852 35 Bratislava
E-mail: renata.hornicka@euba.sk

Abstract: *The paper is focused on the issue of accounting view of research and development according to IFRSs adopted by the European Union. The European Union and individual member states are trying to support research and development. Research and development in various areas is essential for the development of the economy and the achievement of sustainable development of society. Research and development can also take place in the business sector. Research and development can be implemented by the business entity itself or by a group. Parent accounting entities sometimes place research and development in their subsidiaries accounting entities. The paper deals with the accounting view of research and development according to the provisions of IFRSs adopted by the European Union, pointing out the specifics of the reporting of research and development in the consolidated financial statements, which are prepared according to IFRSs in the conditions of the Slovak Republic*. *IAS 38 Intangible assets* (2004*) as amended applies to research and development.*

Keywords: *research and development, IFRS, financial statements, consolidated financial statements*

JEL codes: M40, M41

1 Introduction

Research and development can be carried out in the state sector (for example, in state research institutions and organizations), in the public sector (for example, in public universities), and also in the non-profit sector (for example, non-profit organizations). However, research and development can also be performed by business entities in the private sector with the aim of improving the offered product, service or the very process implemented within the business. The results of research and development put into practice can help increase the competitiveness of business entities on the market. Ultimately, the development of research and development is essential for the development of the knowledge economy and ensuring the sustainability (Petera, P., Wagner, J., Pakšiová, R., 2020) of the development of society. The European Union encourages member states to support research and development. The objective of the European Union is that the expenditure on research and development reaches the level of 3% of the gross domestic product. In the current period, the implementation of research and development is particularly difficult, when individual states have to deal with the consequences of external circumstances (for example, the COVID-19 pandemic, the military conflict in Ukraine), the consequence of which is price increase in the economy due to the influence of various factors. The state tries to support research and development through various tools, for example subsidies, or even tax instruments like the deduction of research and development expenses (the so-called super-deduction).

The legal framework for the implementation of research and development in the Slovak Republic is Act No. 172/2005 Coll. on the organization of state support for research and development and on the amendment of Act no. 575/2001 Coll.on the organization of government activities and the organization of the central state administration, as amended.

This law defines the basic terms associated with research and development (§ 2). Research is a systematic creative activity carried out in the field of science and technology for the needs of society and in the interests of the development of knowledge. Research can include basic research and applied research, the distinguishing feature of which is the usability of research results in practice. Basic research is a systematic creative activity, the main goal of which is the acquisition of new knowledge without the possibility of their direct practical use. Applied research is a systematic creative activity aimed at obtaining new knowledge with the aim of directly using the acquired knowledge in economic and social practice. It is necessary to distinguish innovation from research and development, which means a new or improved product, a new or improved service or a new or improved process, which are applicable on the market and based on the results of research and development or business activity.

Business entities that carry out research and development must record research and development in their accounting that is to account in ordinary accounting and to present it in the financial statements. Business entities proceed when recording research and development according to valid accounting legislation (Subačiene, Alver, Brüna, Hladika, Mokošová, Molín, 2018).

The basic legal regulation in the area of accounting is Act No. 431/2002 Coll. on accounting, as amended (hereinafter referred to as the "Accounting Act"). Business accounting entities accounting in the double-entry bookkeeping system proceed according to the measure of the Ministry of Finance of the Slovak Republic no. 23054/2002-92, which establishes the details of accounting procedures and the general accounting framework for entrepreneurs accounting in the double-entry bookkeeping system, as amended, and according to the relevant measure regulating the preparation of financial statements depending on classification in the relevant size group. The tax consequences associated with income tax in connection with research and development are dealt with in Act no. 595/2003 Coll. on income tax as amended.

The Accounting Act also defines the accounting entities that prepare individual financial statements in accordance to IFRSs adopted by the European Union (§ 17a) and parent accounting entities that must prepare consolidated financial statements also in accordance with IFRS adopted by the European Union (hereinafter referred to as " IFRS"). The accounting solution for research and development within IFRSs is regulated in the standard IAS 38 *Intangible assets* (2004) as amended (Dinh, Schultze, List, Zbiegly, 2020).

The aim of this paper is to present and to analyse the recognising of research and development in the financial statements according to IFRSs, pointing out the peculiarities of the research recognition and development in the consolidated financial statements. The paper does not address tax aspects associated with research and development.

2 Methodology and Data

Research and development can be carried out by individual business entities, which they present the individual financial statements, but also by groups of entities, for which it is prepared the consolidated financial statements. According to the Accounting Act, a parent accounting entity presents a consolidated financial statements for a group. The group is parent accounting entity and all her subsidiaries regardless of their headquarters. Parent accounting entity within groups sometimes transfers research and development to their subsidiary accounting units.

The object of this paper is the accounting view of research and development according to the approach established in IFRS adopted by the European Union in the individual financial statements and in the consolidated financial statements.

The paper is prepared on the basis of valid national accounting legislation and international accounting regulation (IFRS) and professional articles focused on this area. In this paper, the characteristic was used to define research and development. At the same time, the presentation, analysis and synthesis of the provisions of IAS 38 for the area of research and development were used.

3 Results and Discussion

An accounting entity that in its own activity (internally) implements a research and development project and prepares financial statements according to IFRSs, proceeds according to the rules set in the standard IAS 38*.* This standard regulates the accounting and recognising procedure for intangible assets (except for intangible assets regulated by other standards).

IAS 38 also applies to research and development. When accounting, it is important to distinguish whether it is research or development. The research means original and planned investigation carried out with the aim to obtain new scientific or technical knowledge and understanding. The development is the application of research results or other knowledge in a project or design to produce new or significantly improved materials, equipment, products, processes, systems or services prior to commercial production or use.

The rules of IAS 38 regarding the acquisition of intangible assets by own activity (under own management) apply to the realized research project and development project through own activity in the accounting entity. Intangible assets created by one's own activity can be recognised when they meet the general criteria regarding the recognising of intangible assets and at the same time the criteria for intangible assets acquired by one's own activity (internally generated intangible assets). When recognising internally generated assets, it is important to meet the criteria of identifiability and determine the measurement of such assets. IAS 38 also establishes the method of subsequent measurement of intangible assets after their acquisition (costs model or revaluation model). IAS 38 determines which items of intangible assets created by own activity cannot be capitalized.

A research and development project can also be implemented within a group. When recognising research and development in the consolidated financial statements, a specific situation arises at the moment of acquisition (acquisition) of a share in a subsidiary accounting entity that implements a research and development project. Obtaining decisive influence (control) in an accounting unit that carries out research and development in some area can be the motive of the business combination itself. At the moment of acquiring decisive influence in a subsidiary accounting entity, the rules of IFRS 3 *Business Combinations* and the rules of IAS 38 for intangible assets acquired as part of a business combination are applied.

The structure and content of financial statements for general purposes according to IFRS is regulated by IAS 1 *Presentation of financial statements* (2007) as amended*.* IAS 1 also applies to consolidated financial statements, which are considered general purpose financial statements for a group. The principles and procedures of consolidation are established by IFRS 10 *Consolidated Financial Statements* (2011), as amended. When preparing consolidated financial statements, it is important that they are prepared as financial statements of one accounting entity, therefore intragroup transactions between the parent accounting entity and its subsidiaries accounting entities are eliminated during consolidation.

3.1 Recognition of research and development in the financial statements according to IFRSs

The basic rule of the accounting treatment of research and development according to IFRSs is that no asset resulting from the research phase can be recognised. Only assets resulting from the development phase can be recognised after meeting all the specified conditions (so not always). IAS 38 specifies which activities are carried out in the research phase and which in the development phase. Activities in the research phase and activities in the development phase and, depending on it, the subsequent identification (or non-identification) of intangible assets are presented in the following table (table 1):

Table 1 Activities in the research phase and in the development phase according to IAS 38 and identification of intangible assets

Project phase	Individual activities	Identification of intangible asset
Research phase	Activities aimed at gaining new knowledge. Research, evaluation and final selection of the application of research conclusions or other knowledge. Searching for alternative materials, equipment, products, processes, systems or services. Formulation, design, evaluation and final selection of possible alternatives for new or improved materials, devices, products, processes, systems or services.	**Intangible asset cannot be identified**
Development phase	Design, construction and testing of pre-production or pre-use prototypes and models. Design of tools, templates, forms and dies using new technology. Design, construction and testing of a chosen alternative for new or improved materials, equipment, products, processes, systems or services.	**Intangible asset can be identified in some cases**

Source: Own processing based on IAS 38.55 – 38.64

In the research phase, intangible assets cannot be identified (it is not possible to demonstrate the probability of the flow of economic benefits), and therefore all costs incurred for research are accounted for as expenses in the accounting period when it they are incurred in the statement of profit and loss and other comprehensive income. In the development phase, in some cases, intangible assets can be identified and recognised in the balance sheet (statement of financial position) as intangible assets (capitalized development costs). This identification is possible only after meeting all the established conditions.

An intangible asset can be identified in the development phase only if the accounting entity can demonstrate all of the following circumstances (IAS 38.57): technical feasibility of completing the intangible asset (will it be possible to use or sell it), the intention to complete the intangible asset (use or sell the asset), the ability to use the intangible asset assets (through use or sale), how the intangible assets will generate probable future economic benefits, the availability of resources to complete and use the intangible assets and the reliability of the valuation of the intangible assets. Development costs can be activated when all these conditions are met. If any of these conditions are not met, they are recognised as expenses in the statement of profit and loss statement and other comprehensive income when they are incurred.

IAS 38 sets the measurement of internally generated intangible assets (IAS 38.65 – 38.67), and these provisions also apply to capitalized development assets. In the initial measurement of internally created intangible assets, it is necessary to take into account the necessary and directly attributable costs for the creation, production and preparation for operability of the asset in accordance with the management's intentions. Own costs do not include costs that cannot be directly attributed to intangible assets created by own activities, inefficient costs and operating losses before the planned profitability is achieved, and costs for professional training of workers for asset management.

During subsequent measurement, the accounting entity chooses between the costs model and the revaluation model.

3.2 Recognition of research and development in the consolidated financial statements according to IFRS

The parent accounting entity is the preparer of the consolidated financial statements. When recognising research and development carried out by a subsidiary accounting entity in the consolidated financial statements, it is important to distinguish whether research and development is recognised on the date of acquisition or after the date of acquisition. The acquirement of a subsidiary accounting entity by acquisition represents a business combination, and the acquisition method according to IFRS 3 is applied in its accounting and recognising. The acquisition date is the day based on which the parent accounting entity acquires decisive influence (control) in the subsidiary accounting entity, it is the day based on which the first consolidation of equity is realized.

The parent accounting entity as the acquirer must recognises the acquired identifiable assets and assumed liabilities of the acquired subsidiary accounting entity at fair values (within the application of the acquisition method) on the date of acquisition, except for specified exceptions.

Part of the acquired net assets in the subsidiary accounting entity (acquiree) may also include intangible assets. The acquisition of intangible assets in a business combination is regulated separately in IAS 38 (IAS 38.33-38.37) as one of the ways of acquiring intangible assets. According to IFRS 3 and IAS 38, intangible asset acquired in a business combination are recognised separately from goodwill when it meets the definition of asset and is identifiable (separable or arising from contractual-legal rights). The consequence of these rules results in the parent accounting entity, as the acquirer, which may also recognise such intangible assets that the acquired subsidiary accounting entity (acquired entity) did not recognise, because the IAS 38 criteria for its recognition regarding intangible assets generated internally were not met.

In the acquired subsidiary, accounting entity can take place research project and development. The above-mentioned rules for recognising research and development according to IAS 38 (chapter 3.1) are important when accounting and recognising this project in the individual financial statements of the subsidiary accounting entity. According to these rules the research expenditures are recognised as expenses in the accounting period in which they are incurred, they cannot be capitalized. Development costs can be capitalized as an intangible asset when all the conditions according to IAS 38 are met. If development costs do not meet the conditions for capitalization, they are recognised as expenses in the period in which they are incurred.

When recognising an acquired research and development project of a subsidiary accounting entity in the consolidated financial statements, the assessment of this project as of the date of acquisition is important. When deciding whether an intangible asset will be recognized in connection with a research and development project at the acquisition date, it is important to assess whether the definition of an asset and the condition of identification are met. The assessment of the identification criteria in connection with the development project and the research project acquired as part of a business combination (acquisition of a subsidiary accounting entity) is presented in the following table (table 2):

Table 2 Identification of intangible assets associated with the research and development project as of the date of acquisition

Project phase	**Identification of intangible asset as of the date of acquisition**	**Recognising of intangible asset as of the date of acquisition**
Research phase	The intangible asset is identifiable	**Intangible asset can be separately recognised.**
	The intangible asset is not identifiable	**Intangible asset cannot be separately recognised.**
Development phase	The intangible asset is identifiable	**Intangible asset can be separately recognised.**
	The intangible asset is not identifiable	**Intangible assets cannot be separately recognised**

Source: Own processing according to IAS 38.33 – 38.34

The specifics of the rules at the date of acquisition are that even research expenditures that meet the definition of assets at the date of acquisition and are identifiable are recognised by the parent accounting entity as an intangible asset in the consolidated balance sheet, despite the fact that the subsidiary accounting entity recognised them as research expenses in its individual financial statements. From the point of parent accounting view at the group level, it is not an intangible asset generated internally, but an intangible asset acquired by purchase. If the intangible asset is not identifiable, it would not be possible to recognise intangible assets separately, in this case the intangible asset would remain part of the amount recognised as goodwill. As part of the amount recognised as goodwill, development costs that would not meet the conditions for recognising as intangible assets on the date of acquisition (they are not identifiable) would also remain recognised.

Following the acquisition date, the standard rules for accounting for research and development apply. All expenditures associated with research carried out in the subsidiary accounting entity after the date of acquisition will also be recognised in the consolidated statement of profit and loss and other comprehensive income. Development costs after the acquisition date will be capitalized if all established criteria in accordance with IAS 38 are met.

From the point of view of preparing the consolidated financial statements, it is also important to remember that if the subsidiary accounting entity uses the supply of materials (or other assets) or services from the parent accounting entities or from other subsidiary accounting entities during the implementation of the research project and the development project after the date of acquisition within the group, the consequences of these transactions in the consolidated financial statements would have to be eliminated in full (adjusted valuation of intragroup assets, excluded intragroup expenses and intragroup revenues).

Conclusions

Business accounting entities that prepare their individual or consolidated financial statements according to IFRSs adopted by the European Union apply the rules for accounting for research and development set in the IAS 38 standard*.* The basis is to distinguish between the research phase and the development phase. In the research phase, it is not possible to capitalize the costs as an intangible asset, because it is not possible to prove that the definition of the asset and the criteria for recognising have been met. In the development phase, development costs can be capitalized as intangible assets if all the conditions set out in IAS 38 are met.

In connection with the consolidated financial statements, it is important to assess the research project and the development project implemented by the subsidiary accounting entity as the date of acquisition according to the rules of IFRS 3 and IAS 38. The research and development project implemented by the subsidiary accounting entity can be recognised as a separate intangible asset as of the date of acquisition if it meets the definition of an intangible asset and is identifiable, which means that the parent accounting entity recognised it as the date of acquisition even if the subsidiary accounting entity did not recognise it separately as of date of acquisition, because the criteria for its recognising were not met. Following the date of acquisition, the standard procedure according to IAS 38 is applied. In the event that a subsidiary accounting entity carries out a research and development project after the date of acquisition also in the form of intragroup supplies of assets or services, the consequences of these intragroup transactions must be eliminated in full.

Accounting, or the financial statements are an important source of information about the research and development carried out for external users.

By capitalizing development costs, a separate intangible asset is recognised, which affects the amount of recognised assets.

Research expenses and development expenses (which cannot by capitalized) accounted directly into expenses in the accounting period in which they are incurred. In this period they affect the amount of comprehensive income.

The realization of research and development affects the amount of assets (by recognising or not recognising capitalized development costs) and the profit or loss and other comprehensive income (by accounting for expenses), and thus the financial situation of the reporting accounting entity in individual financial statements or a group in the consolidated financial statements.

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