THE ACCOUNTING PRINCIPALS OF RESEARCH AND DEVELOPMENT EXPENSES IN IAS-20 AND IAS-38 FRAMEWORK: AN EVALUATION FOR TURKEY[1]

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ABSTRACT
International Accounting Standards (IAS) and International Financial Reporting Standards (IFRS) are adopted and implemented by many countries around the world. In Turkey, these standards are applied by business whose stocks are in transaction in capital markets, financial institutions and business bigger than the specified limits. To ensure the correspondence with the international standards, they are conducted by the translation to Turkish. In this framework TMS-20 standards were put into operation for accounting the grants and assistances to businesses from the government (IAS-20 Accounting for Government Grants and Disclosure of Government Assistance). After this standard, expenses for the research and development (R&D) and government incentives can be differentiated. In this study current situation of research and development expenses and development devoted to this subject in Turkey will be examined. Within the framework of IAS-20Accounting for Government Grants and Disclosure of Government Assistance- several examples will be dwelt on the accounting of the research and development expenses.

Keywords: International Accounting Standards, Research Expenses, Development Expenses
Jel Codes: M41 Accounting, M48 Government Policy and Regulation

1. Introduction

Recent years, governments around the world discovered that public policies foster economic development in many ways. Human capital and innovation are a vital components for maintaining productivity, performance and competitiveness. Consequently, the research and development incentives for both small and medium size enterprises and large companies have been enhanced in recent years to encourage and reward greater innovation in the world. Businesses need to adapt to the era and, in order to continue operations on a continuous basis are obliged to follow the technological developments. So some grants and assistance are provided by government. The bases of accounting and presentation government grants are regulated by *"IAS-20 Accounting for Government Grants and Disclosure of Government Assistance*". To keep in line with the technological developments, “research” and “development” costs rose to high levels of amounts in large corporations. Based on accounting and presentation, “research” and “development” expenditures are regulated by “*IAS-38 Intangible Assets*”.

In this study, IAS 20 Accounting for Government Grants and Disclosure of Government Assistance will be examined first. Then, Research And Development Expenses in IAS 38 Intangible Assets will be investigated. On the final part of the paper research and development expenses accounted with application of International Accounting Standards' with applications in Turkey will be compared within the framework of a sample case.

2. IAS 20 Accounting for Government Grants and Disclosure of Government Assistance

IAS- 20 sketches how to account for government grants and other assistance. The objective of IAS 20 is to dictate the accounting for, and disclosure of, government grants and in other forms of government assistance. Government grants, including non-monetary grants at fair value, shall not be recognized until there is a reasonable assurance that (IAS-20.7):

- The entity will comply with the conditions attaching to the grants, and
- The grants will be received.

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The manner in which a grant is received does not affect the accounting method to be adopted in regard to the grant. Thus a grant is accounted for in the same manner whether it is received in cash or as a reduction of a liability to the government. Government grants shall be recognized in profit or loss on a systematic basis over the periods in which the entity recognizes as expenses the related costs for which the grants are intended to compensate (IAS-20:9,12).

Government grants related to assets shall be presented in the statement of financial position either by setting up the grant as deferred income or by deducting the grant in arriving at the carrying amount of the asset. There are two methods of presentation in financial statements of grants related to assets are regarded as acceptable alternatives. One method recognizes the grant as deferred income that is recognized in profit or loss on a systematic basis over the useful life of the asset. The other method deducts the grant in calculating the carrying amount of the asset. The grant is recognized in profit or loss over the life of a depreciable asset as a reduced depreciation charge (IAS- 20:24-27).

2.1. The Acquisition of Intangible Assets By Way of a Government Grant

In some cases, an intangible asset may be acquired free of charge, or for nominal consideration, by way of a government grant. This may happen when a government transfers or allocates to an entity intangible assets such as airport landing rights, licenses to operate radio or television stations, import licenses or quotas or rights to access other restricted resources. In accordance with IAS 20 Accounting for Government Grants and Disclosure of Government Assistance, an entity may choose to recognize both the intangible asset and the grant initially at fair value. If an entity chooses not to recognize the asset initially at fair value, the entity recognizes the asset initially at a nominal amount plus any expenditure that is directly attributable to preparing the asset for its intended use(IAS -38:44).

"IAS-20 Accounting for Government Grants and Disclosure of Government Assistance", there is not any regulation related to research and development expenditures accounting. The basis of accounting and presentation "research" and "development" expenditures are regulated by "IAS-38 Intangible Assets". By this way, "IAS-38 Intangible Assets" was investigated for the basis of accounting "research" and "development" expenditures.

3. Research And Development Expenses in IAS 38 Intangible Assets

The incentive can be applied to any industry, but is particularly relevant to manufacturing, engineering, energy and resources, technology, financial services, and life sciences. Research and development costs rose to high levels of amounts in large corporations because of technological development, product diversity and competition etc. In accordance with to IAS38, those expenditures are recognized as assets associated with the statement of financial position (balance sheet), and also some of expenses are recorded as expenses associated with the statement of comprehensive income.

Once an eligible Research and Development (R&D) activity has been determined, the associated qualifying R&D expenditure can be determined, *i.e.* staff costs, payments made for the services of third party contractors or personnel supplied by other group companies, consumable items including materials used up in the R&D process, software licenses and utilities (https://www2.deloitte.com/...).

According to this standard, **research** is original and planned investigation undertaken with the prospect of gaining new scientific or technical knowledge and understanding. Expenditure on research (or on the research phase of an internal project) shall be recognized as an expense when it is incurred. In the research phase of an internal project, an entity cannot demonstrate that an intangible asset exists that will generate probable future economic benefits. Therefore, this expenditure is recognized as an expense when it is incurred (IAS-38:54,55).

Expenditure on research will be recognized as an expense when it is incurred. Research expenses arises when assets are not formed yet, and such expenses are directly associated with the statement of comprehensive income as an expense in the period in which they are incurred.

According to this standard, **development** is the application of research findings or other knowledge to a plan or design for the production of new or substantially improved materials, devices, products, processes, systems or services before the start of commercial production or use.

Development costs are expenditures that develop the relevant asset after the asset has been created. These expenditures are associated with the asset. Final process requires amortization of development costs accumulated in the entity.

The cost of an intangible asset comprises all directly attributable costs necessary to create, produce, and prepare the asset to be capable of operating in the manner intended by management. The following list is included in IAS 38 as examples of directly attributable costs (Brice, 2009):

- Costs of materials and services used or consumed in generating the intangible asset;
- Costs of employee benefits arising from the generation of the intangible asset;
- Fees to register a legal right; and
- Amortization of patents and licenses that are used to generate the intangible asset.

Similarly, selling, administrative and other general overhead expenditure unless this expenditure can be directly attributed to preparing the asset for use;

- Identified inefficiencies and initial operating losses incurred before the asset achieves planned performance; and
- Expenditure on training staff to operate the asset are also included in IAS 38 as examples that are not components of the cost of an internally generated intangible asset (Brice, 2009).

4. Accounting for Research and Development Expenses: IAS-38 Comparison with the Practice in Turkey

According to legal regulations in Turkey, publicly held companies and banks are required to prepare financial reports in accordance with International Accounting and Financial Reporting Standards (IAS/IFRS). Aside from these institutions, the remaining companies are required to prepare and present financial reports if they conform to certain criteria compliant with IAS/IFRS. These criterias include owning assets of at least 40.000 TL, at least 80.000 TL per year as net sales revenue and at least 200 the number of staff. Businesses that meet at least two of these criteria for two years must prepare financial reports in accordance with IAS/IFRS.

In the recognition of research and development expenses, the main difference between the application of the Turkish Tax Procedure Law and IAS 38 arises when the research expenses are recognized. According to the practice in Turkey, both research and development expenses are recorded as assets (intangible asset) and both the research and development expenses are included in the statement of financial position (Balance Sheet). After, the depreciable amount of an intangible asset with a finite useful life shall be allocated on a systematic basis over its useful life.

In terms of IAS 38, “Research Expenses” are recorded as expense in the period in which they are incurred and they are included in the comprehensive income table (Income Statement). Development expenses are recorded as assets (intangible assets) and presented in the statement of financial position. After, the depreciable amount of an intangible asset with a finite useful life shall be allocated on a systematic basis over its useful life.

4.1. Accounting for Research and Development Expenses in the Practice in Turkey

The following example was constructed on the basic accounting record in Gokce and Tellioglu (2013) as our journal example is the modified version of the latter. It was formed for businesses that have prepared financial statements in accordance with the Tax Procedure Law application because they do not meet the criteria mentioned above.

Example: Company X's technology department spend a total of $ 50,000 in 2015, $ 20,000 for research expenses and $ 30,000 for development expenses (VAT:%18, Useful Life:5 years).

X.X.2015		
750 RESEARCH and DEVELOPMENT EXPENSES	50.000	
750.01Research Expenses…………20.000		
750.02 Development Expenses….30.000		
191Deductible VAT	9.000	
102 BANKS		59.000
. . .		
31.12.2015		
263 RESEARCH and DEVELOPMENT EXPENSES	50.000	
750.01Research Expenses…………20.000		
750.02 Development Expenses….30.000		
751REFLECTION ACCOUNT for RESEARCH and DEVELOPMENT EXPENSES		50.000
751.01 Research Expenses…………20.000		
751.02 Development Expenses….30.000		

As seen in the above journal record, without deduction of Research and Development expenditures, both research and development expenditures are recorded as an expense in the period , without making a distinction between them. The amounts accumulated in the expense accounts are reflected in the asset account at the end of the period.

31.12.2015		
750 RESEARCH and DEVELOPMENT EXPENSES	10.000	
750.01 Research Expenses………..4.000		
750.02 Development Expenses...6.000		
268 ACCUMULATED DEPRECIATION(-)		10.000
268.01 Research Expenses………..4.000		
268.02 Development Expenses...6.000		

As seen in the above journal record, a total of $ 10,000 depreciation has been allocated, with $ 4,000 (20,000/5) for research expenditure and $ 6,000 (30,000/5) for development expenditure.

31.12.2015		
630 RESEARCH and DEVELOPMENT EXPENSES	10.000	
630.01 Research Expenses……….4.000		
630.02Development Expenses...6.000		
751REFLECTION ACCOUNT for RESEARCH and DEVELOPMENT EXPENSES		10.000
751.01 Research Expenses……….4.000		
751.02Development Expenses...6.000		

$ 10,000 accumulated depreciation is reflected in the comprehensive income table account. Thus, depreciation is associated with the comprehensive income table. The above journal record will be repeated for the next four years. At the end of the useful time (5.year), the $ 50,000 in the active account will be associated with the income statement and will be converted to expired cost.

4.2. Accounting for Research and Development Expenses in IAS 38

As previously stated, in accordance with to IAS 38, "Research Expenses" are recorded as expense in the period in which they are incurred and they are included in the comprehensive income table. Development expenses are recorded as assets (intangible assets) and presented in the statement of financial position.

According to IAS 38, on the same example above, journal entries will be as follows.

X.X.2015		
263 RESEARCH and DEVELOPMENT EXPENSES	50.000	
263.02 Development Expenses….30.000		
750 RESEARCH and DEVELOPMENT EXPENSES		
750.01 Research Expenses……..20.000		
191Deductible VAT	9.000	
102 BANKS		59.000

In the above journal entry, $30,000 for development expenses are recorded and capitalized as intangible assets. $20,000 for research expenses was recorded as an expense in the period.

31.12.2015		
750 RESEARCH and DEVELOPMENT EXPENSES	6.000	
750.02 Development Expenses...6.000		
268 ACCUMULATED DEPRECIATION(-)		
268.02 Development Expenses...6.000		6.000

At the end of the term, depreciation of $ 6,000 (30,000 / 5) was recorded for development expenses. Research expenditures are recorded directly as expense account. So there isn't any amortization record for the research expenses. The above journal record will be repeated for the next four years. At the end of the useful time (5th year), $ 30,000 will be deducted for the entire depreciation.

31.12.2015		
630 RESEARCH and DEVELOPMENT EXPENSES	26.000	
630.01 Research Expenses…….20.000		
630.02Development Expenses.....6.000		
751 REFLECTION ACCOUNT for RESEARCH and DEVELOPMENT EXPENSES		26.000
751.01 Research Expenses……..20.000		
751.02Development Expenses.....6.000		

As seen in the above record, the total of $ 20,000 are accumulated as a research expense and the $ 6.000 are allocated for development expenses by reflecting to the depreciation account and associated with the statement of comprehensive income.

5. Conclusion

Governments of the global age discovered that sustainable growth and development can be achieved through innovation, research and development, supporting new technologies, investment to goods and services with high value added. These components undoubtlessly foster productivity and competitiveness in a global world. One of the prominent tools of government to achieve these goals is the research and development incentives (grants). There are some grants provided by the government in order to continue the activities of the businesses. Some of the grants are in the form of direct government support. In part of the grants, expenditures made by the enterprises are recorded as expense and deducted from the tax base. In "IAS-20 Accounting for Government Grants and Disclosure of Government Assistance", two different arrangements are envisaged, namely "capital approach" and "income approach" in accounting for incentives. The accounting and presentation principles of Research and Development expenses are regulated in "IAS-38 Intangible Assets". Businesses that are not subject to IAS/IFRS in Turkey make no distinction between research and development expenditures. Both expense groups are recorded as assets during the period. At the end of the period, the amounts accumulated in the asset are transferred to the statement of comprehensive income by depreciation. In IAS-38, Research Expenditures are recognized as expenses when it is incurred, but Development Expenditures are recognized as assets. Therefore, all of the research expenditures are included in the statement of comprehensive income from the beginning. On the other hand, development expenditures are initially recognized as an asset and then transferred to the statement of comprehensive income on a depreciable basis over the useful life. As a result, there are differences in practice between businesses are subject to IAS/IFRS and those are not subject to IAS/IFRS. As soon as IAS/IFRS-compliant reporting becomes mandatory for all enterprises in Turkey, application differences will cease to exist.

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