

CONCEPTUAL NUANCES OF AMORTIZATION PROCESS TERMINOLOGY

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Abstract: Often, both in literature and practice in economics, it is found that a number of terms related to the amortization process, such as wear, depreciation, physical lifetime, economic lifetime, useful lifetime, normal operation lifetime are used a manner that distorts their content and, therefore, affect the quality of information provided through them. In this article we intend to give opinion to contribute to clarifying the meaning of the terms mentioned, including the relationships between them, in order to provide a more rigorous conceptual base regarding the professional reasoning applicable to amortization. Given that this topic is a focal point of the spheres of interest of several categories of specialists, we will expose our work by comparing the national tax accounting regulations and, international accounting standards and international valuation standards.

JEL classification: M41, M42

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1. INTRODUCTION

Like any field, the economics represent the area where various categories of specialists whose work is interrelated permanently interact. In this environment, the "unit of measure" of all actions we consider to be the financial and accounting information, and accounting is, obviously, a leading provider of information of this nature, context in which it can be stated that the language of accounting is in fact the language of business. The supplier of accounting information or the

accountant, has a duty to maintain a high quality of his profession by providing information that must be, inter alia, real, accurate, relevant and understandable, so that it may serve as appropriate decision support to potential users. In this process, the expertise and the reasoning play a significant role. Not infrequently, however, happens to be limitations and restrictions in the wording of regulations in the field, meaning that not sufficient clarification is provided, at least at the conceptual level; thus the possibility of creating confusion.

One of the topics that can generate such confusion is the amortization process. Analyzing both literature and practice in the field, it is found that a number of terms related to the amortization process, such as wear, depreciation, physical lifetime, economic lifetime, useful lifetime, normal operation lifetime are used a manner that distorts their content and, therefore, affect the quality of information provided through them. Given that depreciation is a significant element taken into account in the calculation of indicators for measuring the performance of the economic entity, such as the ability to finance itself (a very important role because the size of this indicator reflects the growth potential of the entity) or value added (also with a great significance, given that currently the criterion according to which performance is estimated is the entity's ability to create value), we intend to give an opinion to contribute to clarifying the meaning of the terms mentioned, including the relationships between them, in order to provide a more rigorous conceptual base regarding the professional reasoning applicable to amortization.

2. GENERAL ASPECTS OF TANGIBLE ASSETS AMORTIZATION

Financial accounting theory pays special attention to investment decision, the object of which is the assets, including tangible assets which have usually a significant share in terms of volume and values that reflect. The investment decision comes after covering by the entity's decision makers of some well-founded phases, which are based on several criteria, to determine the profitability of each potential project separately.

One of the most important criteria is the net updated value, whose calculation involves using an updating rate taken from the data on the market where the asset is traded and comparing future cash flows updated at the original capital invested. This reasoning will be applied correctly only if real and credible estimates of future cash flows will be made and also an updating rate that reflects current market conditions will be chosen.

In other words, it is considered effective the investment in assets that generate future economic benefits embodied in the cumulative greater values than the initial cost of purchasing the asset.

Taking the example the technological equipment recently purchased (which met the criteria for testing the profitability), for use in a production facility, with its activation it will begin to produce goods (production units) to be sold in exchange of a price which represents future economic benefits. Thus, the entity's cost for purchasing the asset will return gradually, as the sums received for the goods produced, showing gradual recovery in the input value during the useful lifetime of the equipment.

Once introduced into production, the technological equipment will begin to wear and this wear will be recognized in the accounts through amortization by including monthly in the costs account (starting with the month after commissioning, and ceasing when it achieved the full recovery of input value) the rate of the initial value of the asset corresponding to amortization on the principle that the wear is considered unrecoverable.

In terms of accounting regulations, four possible possibilities of amortization are determined:

- linear amortization - requires the annual inclusion in operating costs of some fixed amounts, determined by applying the rate of depreciation on the initial value, calculated by dividing the input value of the asset at the number of years representing the useful lifetime;
- diminishing amortization - requires the multiplication of linear amortization rate by a coefficient, thus obtaining the diminishing amortization. This factor falls into one of the following possibilities:
 - o 1,5, when the normal period of use of the asset is within the range of 2-5 years;
 - o 2.0, when the normal period of use of the asset is within the range of 6-10 years;
 - o 2.5, when the normal period of use of the asset is greater than 10years;
- accelerated amortization - requires the inclusion in the costs account of a percentage up to 50% of the initial value in the first year of operation following that in the coming years to use linear amortization rate;
- amortization per unit of product / service - used when the nature of the asset justifies it.

May be subject to amortization process all categories of fixed assets with the following exceptions:

- in terms of accounting regulations, the exception is the land assets which can be depreciated as they have an unlimited useful lifetime and are not subject to wear;
- as regards the provisions of the Tax Code the following categories of assets cannot be depreciated:
 - o land, including forests;
 - o paintings and works of art;
 - o goodwill;
 - o lakes, ponds and lakes that are not the result of an investment;
 - o goods financed from the public budget;
 - o any asset that does not lose value over time due to use, according to the rules;
 - o own residences, protocol residences, ships, aircrafts, cruise ships, other than those used for economical activities;
 - o intangible assets with indefinite useful lifetime, falling under the accounting regulations applicable".

Also, the Tax Code provides for a mandatory minimum value limit established by government decision (currently 2,500 lei), allowing fixed assets to appear as a depreciable asset. Thus the cost for the depreciation of assets whose

value exceeds this limit will be considered deductible for tax purposes, otherwise, the assets fall into the category of inventory items.

The amortization regime should be chosen according to the nature of the asset and how it is projected to be used by the entity, specifying that the linear method is mandatory for construction, and the accelerated one can be used only for technological equipment and computers and peripherals related to them (but it is not mandatory, it is possible to choose between the 3 methods). For the remaining categories of depreciable fixed assets, the choice between linear and diminishing depreciation method is provided.

Also, the method of depreciation is an accounting policy of the entity and must be applied consistently, changing it can be achieved only when consumption by the entity of the future economic benefits of the asset was wrongly estimated. Instead, the originally planned normal functioning of the asset, justified by a significant change of conditions of use or transition in its conservation can be revised with significantly less impact on accounting policies.

3. AMORTIZATION OF TANGIBLE ASSETS BETWEEN WEAR AND DEPRECIATION

In my view, the term **wear** should be understood as a general term. This can take several forms, among which we mention the physical wear and moral wear whose meaning according Explanatory Dictionary of the Romanian language is as follows: on the one hand, physical wear means damage, degradation of an object by its long use and, on the other hand, moral wear reflects a loss of value of machines, appliances, buildings etc. as a result of social work productivity growth or emergence of other machines, improved (as a similar term may be used obsolescence that represents a technological downgrading of an industrial material by the appearance of another, more modern).

We often encounter in practice the situation where a tangible asset is not used in accordance with the technical parameters foreseen (for example, the asset is overloaded) or simply is not properly maintained (the exchange of components that require making such operations periodically is not observed). Such aspects contribute to the acceleration of the phenomenon of wear and assets will suffer such a loss of value, reflected in accounting through recognition of the depreciation. Thus, if we transpose the term wear in accounting in the context of using the tangible assets of the entity, this will develop in depreciation, so we can say that depreciation reflects the wear of the asset.

The term depreciation (as specialized term used in economics) is associated with two definitions:

- depreciation translated into English by "impairment" is "a loss of future economic benefits or service potential of an asset, in addition to systematic loss recognized by future economic benefits or potential service expressed by amortization".
- depreciation translated into English as "obsolescence" is "a loss of use of an asset caused by physical damage, changes in technology, evolution of demand schemes and changes in the environment, which translates into a loss of value"

The problem of estimating depreciation in accounting regulations appears to evaluating the inventory and presentation of items in the balance sheet, when it

should be established by the Board of inventory, the value of inventory, reflecting as accurately the value of the asset at the time of evaluation. Setting this is done based on the accounting amount of input that less the estimated depreciation will be the new value of inventory.

Thus, we believe that obsolescence defines a total depreciation, determined by the market value of the asset, meaning that an asset is considered impaired if there is a difference between the acquisition cost of a new asset, similar in terms of technical and economic characteristics to the rated asset and the price that could be achieved through asset trading on the specific market at the time of evaluation. This depreciation is calculated, usually through methods specific to evaluation standards, based on asset-specific generating factors and asset independent, respectively factors in the external environment.

Also, the loss of value suffered by assets as a result of the impairment can be recovered in the future to the extent that, on the one hand, generating factor no influence on the asset, or, on the other hand, costs incurred for depreciation remediation of will be lower than the growth of utility or value derived. Otherwise, it shall be deemed unrecoverable loss.

Depending on the nature of the above factors, the following types of impairment are determined:

- Physical obsolescence - a utility loss caused by physical damage of an asset or its components, as a result of its age and under normal conditions of use, which translates into a loss of value. It is divided into recoverable and unrecoverable.
- Functional obsolescence - a utility loss caused by the inefficiency of the substitute asset compared to its topic, which translates into a loss of value. Within this type can be identified the following:
 - o Functional obsolescence recoverable caused by a deficiency that requires adding (installing) a new element;
 - o Functional obsolescence recoverable caused by a deficiency that requires removal (replace) of an existing component (repair of a defect);
 - o Functional obsolescence recoverable caused by an excess economically feasible to be recovered;
 - o Functional obsolescence unrecoverable caused by a deficiency;
 - o Functional obsolescence unrecoverable caused by an excess.
- External obsolescence - a utility loss caused by economic factors or location outside asset, which translates into a loss of value.

Instead, impairment is rather the depreciation to be quantified by the Board of inventory when determining inventory value therefore it is calculated in accordance with accounting regulations. An indication of the value depreciation - impairment may be obtained by reducing the total depreciation (obsolescence) of the value of accumulated amortization until the date of evaluation, since the recording of depreciation has already reflected a form of obsolescence (physical, unrecoverable). Thus it is Board of inventory's duty to estimate the impairment, as the sum of the possible physical obsolescence, in addition to amortization,

determined by taking account of indications from the entity's internal environment and the depreciation caused by factors external to entity's environment.

In regard to amortization, it is often confused, in conceptual terms with obsolescence or impairment, so in literature we find these terms among the definitions of amortization without their analytical breakdown. We believe that this may cause confusion both in the professional reasoning of the provider of accounting information and in the user's decision-making process. In this context, our opinion on the amortization is that it reflects unrecoverable physical wear of the asset due to its use by the entity in order to generate future economic benefits. Given that, economically the wear results in a loss of value, this is reflected through depreciation and between its forms, the amortization as specific accounting process, reflects the unrecoverable physical obsolescence. Thus, the loss from depreciation will be recognized only if where there is an additional depreciation, in addition to the one recognized through amortization. We consider necessary to draw attention to this issue because, given that the asset will be reflected in the balance sheet at the input value minus accumulated amortization and accumulated losses from depreciation, not to separate in the process of estimating the depreciation that part already recognized through amortization is actually diminishing the asset value twice by the same element.

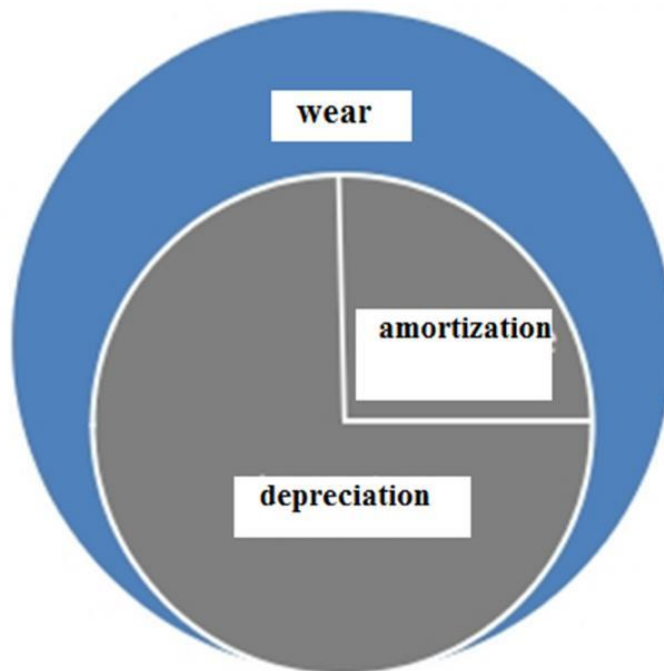


Figure no. 1 Relationship wear - depreciation - amortization

In conclusion, the relationship between the three terms analyzed is, in our opinion, the following: Depreciation reflects the wear (for various reasons) of the asset, which translates into a loss of future economic benefits. Depending on the cause that prompted the wear, depreciation can be physical, functional or external,

reversible/irreversible or recoverable / unrecoverable. In turn, amortization is a way of accounting reflection of the irreversible physical depreciation.

4. RELATIONSHIP PHYSICAL LIFETIME - ECONOMIC LIFETIME - USEFUL LIFETIME - NORMAL OPERATION LIFETIME, BASED ON THE ESTIMATED RATE OF CONSUMPTION OF ECONOMIC BENEFITS RELATED TO TANGIBLE ASSETS

We have noticed the trend of the professional accountant to put equality between the economic lifetime, useful lifetime and the normal operation lifetime of the asset, mistake that leads to incorrect addressing the way in which economic benefits brought by the asset to the entity are consumed. Given that this estimate is the base of recording of depreciation costs, we consider necessary in the context of deepening and understanding the size of the studied phenomenon, presenting the concepts mentioned and the relationship between them, outlined in the comparative analysis of national accounting regulations (of Order No.1802/2014 for the approval of accounting regulations on the annual individual statements and consolidated financial statements, Official Gazette no. 963 / 30.12.2014), rules in the field of taxation (Law 227/2015, Fiscal Code, Official Gazette no. 688 / 09.10.2015), international financial reporting standards (IFRS edition 2016) and international valuation standards (IVSC edition 2016).

An economic good can be classified from an accounting perspective, in the asset category if it meets, inter alia, provided to be used long-term in the entity in order to generate future economic benefits. These, as they will be produced, they will be consumed by the entity, helping to the main purpose of carry out the economic activity of the entity, namely the realization of profit.

The said asset is not though an inexhaustible resource (in accounting terms, any asset is exhaustible, except land) and productivity is limited by elements like: its physical and technological capabilities; the usefulness assigned within the company; the relationship of dependence on other assets and ability to maintain its feasibility in the context of changing technology.

Thus, it will be stored in the entity only to the extent and for the time to perform the functions mentioned.

Based on the concept of physical lifetime (understanding the total duration of physical existence), it can be said that the time period between when the asset has been built and until the disposal encompasses a time in which it has the ability to be productively, namely to generate future economic benefits. This interval is called economic lifetime.

When the asset reaches the end of its economic life (it appears that elements impeding it to obtain economic benefits occur), this may be extended in the following ways:

Table no. 1

For real estate (construction)	Intangible assets (machinery, equipment and facilities)
□ rehabilitation and continuation of the existent use	□ rehabilitation and continuation of the existent use
□ renovation and conversion to a new use	□ transfer to the unit / subunit
□ sale	□ sale

This extension must be passed through the profitability test, and for example assume a situation where on the specific market an asset similar, with the same utility appeared, that can increase the value of future economic benefits long enough so as to justify the replacement thereof. This replacement can be considered cost-effective when it is found that:

- the cost of repairs of the old asset is greater than the cost of similar asset acquisition, or
- the similar asset has superior characteristics increasing the future economic benefits. Such a "increase" could be determined as follows:
 - we consider an analysis for the period of time between T0 when the new asset is purchased and until T1, where it generated sufficient cash flows to cover the initial cost;
 - for the replacing of the existing asset with the similar one to be justified financially, within specified the time, the sum of the updated cash flow rate minus updated costs rate (costs include also the cost of the asset or the amount of money paid to purchase it) of the similar asset must be greater than the sum of updated cash flows minus updates costs rate (including anticipated higher maintenance and repairs expenses) of the existing asset.

Fluctuation of economic benefits will vary depending on the conditions and modalities of operation of the asset by the owner or, in other words, according to the utility attributed in the activity by an entity or another. Closely related to the estimated usefulness we find the concept of useful lifetime, defined as "the period in which an asset is expected to be available for use by an entity, or the number of similar production units expected to be obtain from the assets by an entity."¹

We observe that when we talk about economic lifetime, we mean the time that the asset generates future economic benefits, regardless of owner. Thus, the duration of its economic life, it can be used by an entity, that estimates its useful lifetime, and then gave to another entity, which in turn will estimate another useful lifetime and so on.

We can say, in these circumstances, that often economic lifetime is greater than the useful lifetime (an exception being an asset obtained on its own that is disposed by the entity before the end of useful life estimated , in which case the two are equal).

¹ Public Finances Minister Ordinance no. 1802/2014 for the approval of the Accounting rules on annual individual financial statements and annual consolidated financial statements, Official Gazette no. 963/30.12.2014, art. 139, par. (3)

As mentioned previously, an asset that is consumed while generating economic benefits for the entity gives its holder the right to register the depreciation. Depending on its nature, we delimit the following:

- Accounting depreciation determined using several methods, which consist of the amortization rate on the input value, whose calculation involves taking into account the useful lifetime of the asset in the entity, estimated by the professional accountant.

- Tax amortization determined by the same methods as the accounting one, except that instead of useful life, it takes into account the normal functioning, chosen by the professional accountant from the catalogue on classification and normal useful life of fixed assets .

So the normal operation lifetime is a concept used strictly for tax purposes, to help determine the amount that can be deducted from the accounting amortization recorded.

Often in practice the accountant considers useful lifetime equal to the normal operation lifetime without taking into account that when the asset is depreciated (in terms of tax) of 100% does not always coincide with when it ceases to be used by the entity.

Therefore, we conclude that the relationship between useful lifetime, normal lifetime may fall within one of the following situations:

- useful lifetime is longer than the normal operation lifetime when the asset is fully amortized for tax purposes, but continues to be used by the entity;

- useful lifetime is equal to the normal operation lifetime when the asset is ceased/disposed of when normal operating conditions expiry;

- in the useful lifetime, several normal operation lifetimes are estimated when investments are made in the fully depreciated assets in terms of taxation, investments which in turn depreciate.

The route of a tangible asset throughout its life and physical lifetime and the relationship between the terms previously analyzed can be schematically illustrated through the following example:

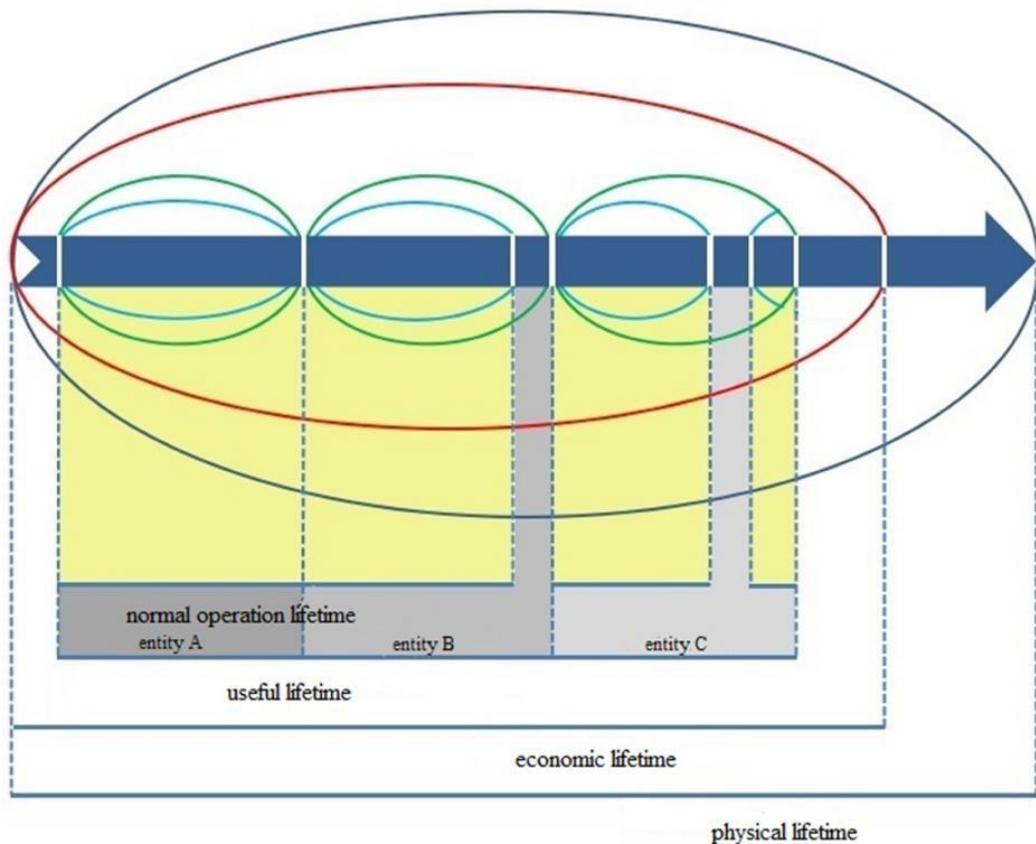


Figure no. 2 Physical lifetime - economic lifetime – useful lifetime – normal operation lifetime relationship

Representing on a chronological timeline the physical lifetime of an asset (dark blue circle), we see that the moment the asset starts to exist physically coincide with the moment the asset starts its economic lifetime, namely its ability to be productive.

When it enters in the management of the entity A, it will be estimated a useful lifetime (green circle), meaning the estimated period for which it will be used by the entity. Concurrently, choosing a normal lifetime (blue circle) is required to calculate the rate of tax depreciation.

Assuming the entity A sells the asset before full amortization, it will enter into the management of entity B which, in turn, estimates a useful life of the asset and a normal lifetime. On expiry of the latter, it is decided to continue the use of the asset until of transferring it to the entity C.

Similarly, the entity C performs the same estimates, except that following the expiry of normal operation life and thus the termination of recording depreciation expense, an investment in activities that increase the value is carried out, so that the investment amortization will be required in accordance with the new normal operation lifetime.

Subsequently the full amortization of the investment, asset loses its ability to be productive and therefore with no economic benefits. Thus, its economic life ceases. In this context, it is decided to dispose the asset, since coincides with the natural end of life.

5. CONCLUSIONS

Critical thinking is an active and purposeful thinking process that is required to perform contemporary accounting and auditing tasks. Several task characteristics (e.g., task novelty) were identified as those that require critical thinking. It was also noted that several action-oriented attributes such as meaning imposition are necessary to understand the tasks and to perform them effectively.

Given that depreciation is a significant element taken into account in the calculation of indicators for measuring the performance of the economic entity, such as the ability to finance itself or added value, we believe that its reflection in accounting will be subordinated to the desire to provide a firm decision support to users of information of this nature only eliminating confusion associated with the terms involved

In this sense, we consider necessary to present the relationships that are created between the terms of wear, depreciation, amortization and between physical lifetime, useful lifetime, economic lifetime and the normal operation lifetime which, in our opinion, constitute a source of error in professional reasoning.

- the relationship between wear, depreciation, amortization, we can say that depreciation reflects wear (for various reasons) of the asset, which translates into a loss of future economic benefits. Depending on the cause that prompted wear, depreciation can be considered reversible or irreversible. In turn, accounting amortization is a way of reflecting the irreversible depreciation.

- the relationship useful lifetime, economic lifetime, normal operation lifetime, based on the concept of physical lifetime (understanding the total duration of physical existence), we can say that the time between when the asset was built until it is disposed encompasses a time in which it has the ability to be productively, namely to generate future economic benefits. This interval is called economic lifetime. Fluctuation of economic benefits will vary depending on the conditions and modalities of operation of the asset by the owner or, in other words, according to the utility attributed in the activity by an entity or another. Closely related to the estimated usefulness we find the concept of useful lifetime, defined as "the period in which an asset is expected to be available for use by an entity, or the number of similar production units expected to be obtained from the assets by an entity. We observe that when we talk about economic lifetime, we mean the time that the asset generates future economic benefits, regardless of owner. Thus, the duration of its economic life, it can be used by an entity, that estimates its useful lifetime, and then gave to another entity, which in turn will estimate another useful lifetime and so on. We can say, in these circumstances, that often economic lifetime is greater than the useful lifetime (an exception being an asset obtained on its own that is disposed by the entity before the end of useful life estimated, in which case the two are equal). The normal operation lifetime is a concept used strictly for tax purposes, to help determine the amount that can be deducted from the accounting amortization recorded. Often in practice the accountant considers useful lifetime equal to the normal operation lifetime without taking into account that

when the asset is depreciated (in terms of tax) of 100% does not always coincide with when it ceases to be used by the entity.

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