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Aspects regarding the use of modeling in accounting

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Abstract

The purpose of this article is to present some theoretical and practical aspects regarding the use of modeling in accounting. The paper defines the concepts of modeling and accounting model, and continues with a case study referring to a collective evaluation of impaired assets. Because of the importance of accounting information in the financial statements and not only, we analyzed the relationship between the models, the information systems and the modeling process. As a conclusion, we support the idea that by introducing the modeling process in accounting, we obtain a superior quality of the accounting information.

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1. Introduction

The aim of present paper is to debate about some theoretical and practical aspects referring to the use of modeling in accounting and to debate about the importance of this process for the economic entity. For answering to the research question on which our paper relies on – “Which is the interference of modeling process in accounting?” we established as operational objectives the followings:

- Defining the notions “model” and “modeling”;
- Analyzing the relationship between models, modeling process and information systems;
- Presenting the collective evaluation of financial impaired assets.

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2. Defining the notions “model” and “modeling”

Generally speaking, a model is a representation of a reality, of some objects and processes from nature and society. According to the Business Dictionary a model is a “graphical, mathematical (symbolic), physical, or verbal representation or simplified version of a concept, phenomenon, relationship, structure, system, or an aspect of the real world” (<http://www.businessdictionary.com/definition/model.html>). Literally models around us, they are created and used at every step, they serve us daily (Kuřev, Goreainov, 1969).

The models can be categorized in material (physical) and abstract ones. The material models represent the shaped object to a smaller scale but in a form almost identical with the real. The abstract models are those in which links are functional relationships between variables and reflects the contents and properties of the object or process modeled only in human consciousness. From the many observed characteristics, some are very important for the research purposes, others are less relevant. Because are retained only the essential features for the intended purpose, it is achieved a simplified picture of the object of the research. So, the simplification is obtained through abstraction (giving up features nonessential to the purpose).

In the academic research area the notion of model has known different meanings depending to the paradigm taken in consideration. According to the positivist paradigm the model is an objective representation of an ontological reality and its scientific degree depend on the capacity to present a faithful image for past facts. A specific characteristic is that the designer and the users are excluded from the modeling process. Under the constructivist paradigm the notion of model was reconsidered and we assisted to the introduction of the observer (designer or user) in the modeling process. In this case the validity of model depends on its capability to satisfy the informational needs of observers and on its reliability. Although the two approaches presented above are different, they also have a common point: the validity of model relies on the relation with the reality.

The process of modeling facilitates the understanding of these relations because it enables the transition from reality to model. Thus, the modeling can be defined as a process of knowledge of objective reality, relied on an instrument with special features: the model. The subject of the research (a phenomenon, a process, a system) is replaced with the model, with which are made the experiments. The obtained results are then reflected on the real phenomenon.

Alida and Descargues (2009) consider that the modeling process must present a certain number of characteristics intended for assuring the communication of the representations produced and for the model's interrogation, in order to answer to the questions about the reality.

3. From model to accounting modeling

In the last period, the use of the modeling in accounting has become a common and widely spread practice. The accounting and financial models are considered key tools for the management process. If built correctly, it will provide invaluable assistance in understanding, managing, and presenting the business activity. It will not only facilitate the answers, but it will also provide to the observer a tool to examine “what ifs” with various assumptions and scenarios. The models used can assist the cash budgeting process, or they can serve as the primary basis for evaluation.

Under the positivist paradigm the most evoked approaches referring to the modeling are the deductive and inductive ones. From deductive perspective the model is projected starting from theory. Subsequently this hypothetic model must be validated through experimentation. In the inductive approach the modeling process starts with empirical observation. By generalization is built a theoretical model which will be a subject for scientific validation.

Still, the accounting modeling does not fit into any of the previous approaches. It is excluded from the first, because it does not refer to any axiomatic abstract and does not allow predictions of reality. Similarly, it does not correspond to the second approach because the model is not falsifiable in Popper's sense (Alida and Descargues 2009).

In designing an informational system the main method used is the modeling. Through informational modeling we understand the process of construction and use of a set of models of the information system, process carried out for a

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