

## THE C.A.N.O.A. MODEL - A POSSIBLE IMPLEMENTATION IN ROMANIAN UNIVERSITIES

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### **Abstract:**

*Globalisation, in addition to the many effects it has in all areas, determines, in what concerns higher education, a fierce competition between universities worldwide. This competition requires, as an essential element, that in addition to the services offered by the universities, they also develop tools to reveal their costs. Academic and financial performance are the two measures of the management of a university. Accounting supports the management of a university by its three facets, which form, together, the institution's accounting information system: budget implementation accounting, financial accounting, and management accounting.*

*However, while budget implementation and financial accounting are well represented in Romania, the same cannot be said about management accounting. In this paper we shall analyse a possible application of management accounting in Romanian universities, using the C.A.N.O.A. model, a method that is currently used in Spain.*

**Key words:** public accounting, cost centres, activities, Romanian universities, CANOA

**JEL classification:** M41

### **1. INTRODUCTION**

Given that educational services (and in this paper we shall focus on higher education services) are a feature of the service industry (Paschia, 2016, p.4), and that the dynamics of these services are influenced by population dynamics, on the one hand, and by the labour market, on the other, good cost management is absolutely necessary. At the same time, the competition between universities, both nationally and internationally, coupled with reduced funding resources, entails changes in the management of universities.

Currently, in Romania, the public sector accounting legislation, namely the Order of the Minister of Public Finance no. 1917/2005, provides that institutions are bound to organise and manage their own accounting activities, their financial accounting and, as appropriate, their management accounting, which are adapted to the specific nature of their institution. As its application is not mandatory, currently there is no system of management accounting in the public sector. However, we must address this as *a part of the management process*, as management accounting helps determine the efficiency of the manner in which resources are used. (Tabără N., p.25). At European level, the implementation of this process is ongoing. Countries like Austria, Germany, Poland, Portugal, Sweden, the UK, and Spain have already accumulated experience in this area.

Education is one of the core systems of any society, and we believe that the implementation of management accounting is imperative, that the decisions of the governing structures of public

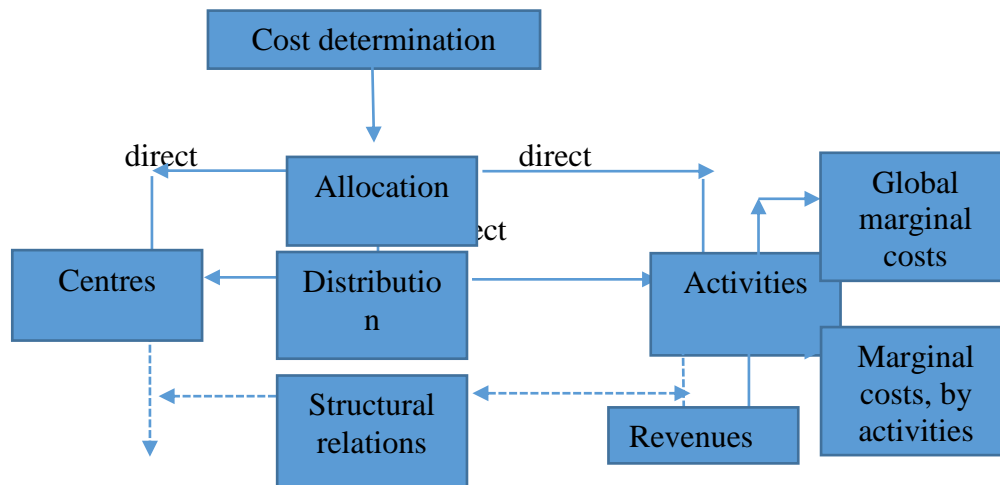
bodies should be available, not only from economic and financial information, but also from budget accounting and from technical and economic information generated by analytical accounting (Esteban M.A.L., 2013, p.10).

This topic is currently being broached extensively in the Romanian literature, as it is considered of great interest. Current investigations focus on which of the methods studied by the international literature is more likely to suit the Romanian higher education system.

This paper focuses on a Spanish management accounting model, called C.A.N.O.A. - *Sistema de Contabilidad Analítica Normalizada para las Organizaciones Administrativas*. The main reason that motivated our choice of model is the similarity between the two accounting models (Romanian and Spanish).

## 2. A POSSIBLE MANAGEMENT ACCOUNTING MODEL THAT COULD BE ADAPTED TO SUIT ROMANIAN UNIVERSITIES

While higher education institutions are governed by the university autonomy principle, their financial activity is limited in terms of attracting revenue, on the one hand, and in what concerns the use thereof, on the other. As a result, financial information must be directed to all stakeholders: rectors, vice-rectors, deans, vice-deans, directors, employees (Malles Fernad E., U. Garcia Burgo, 2010, p.121). Management accounting, along with budget accounting and financial accounting, can support them. So far, no such model has been developed in Romania, this being the reason for our analysis of the C.A.N.O.A. model implemented in public universities from Spain, trying to adapt it to the characteristics of Romanian universities. The C.A.N.O.A. model "is a subsystem within the global information system, aiming to provide information for decision-making" (Marques MCC, p.7) and works with the following components: cost items, revenue items, cost centres, activities, internal relations, distribution and allocation criteria, and management systems that provide information.



**Figure 1. Operation of the C.A.N.O.A. model**

Source: Universidad Politécnica de Madrid, 2015, Modelo de Contabilidad Analítica para Universidades Públicas, p.2

Applying the C.A.N.O.A. model (Figure 1) involves the following steps:

- Establishing cost centres/activities;
- Determining internal relations;
- Establishing distribution and allocation criteria;
- Determining costs;
- Allocating costs by cost centres/activities (directly or indirectly);
- Distributing costs (from top to bottom) starting with top-level centres/activities to bottom-level centres/activities;
- Allocating revenue by activity;

- Determining marginal costs, by activity;
- Determining global marginal costs.

*Cost centres* are structures of a university that conduct different defined activities. In the case of a university, the cost centres are: main centres, used to conduct the core activity, related centres, used to conduct activities that are not intrinsic to universities, auxiliary centres, and management centres (Table 1).

**Table 1. Determining the main centres in Romanian public universities**

Cost centres	Centre name
Main centres (finalists)	Faculties (departments, centres) Research institutes Doctoral schools
Related centres (which conduct activities different from the university's own activities)	Sports centres Cultural centres Other centres
Auxiliary centres (which conduct activities that support the other centres)	Social centre and dormitories, cafeteria Publishing house + printing office International relations Other centres
Management centres	Rector's Office General Administrative Directorate

Source: own research

*The activities* consist of a set of operations of a university, which consume resources and for which we would like to know the associated costs (Table 2).

**Table 2. Determining the main activities in Romanian public universities**

Activities	Activity name
Main activities (finalists)	Higher education activity Research activity
Related activities	Sports activities Cultural activities Other activities (kindergarten, after school)
Auxiliary activities	Dormitory - (social) cafeteria activity Printing activity Other activities
Management and administrative activities	Management activity Administrative activity

Source: own research

*Cost items* are "each of the significant categories in which are classified the consumptions of an organisation, grouped by economic characteristics and level of information required by the entity." (IGAE 2004, quoted by Hernandez A.L. et al, 2011, p. 47); more specifically, cost items group and classify the goods and services used by a university in order to conduct its activities.

Cost items in management accounting and economic classification in budgetary accounting must be interdependent. Although the literature points out several criteria for cost classification, this paper shall focus on grouping them into direct costs and indirect costs.

**Table 3. Determining types of costs**

Expenses	The allocation/distribution method
Personnel costs	direct
Cost of goods and services	direct/indirect
Costs related to social security and other costs	direct
Cost of fixed assets (including depreciation)	indirect
Financial costs	indirect

Source: own research

Each cost is linked, directly or indirectly, to a cost centre (bottom-level or top-level) and, in its turn, to a specific activity. Ideally, each cost has a direct correspondence to a bottom-level centre, but there are situations when a cost is related to a higher level centre (expenses related to utilities or depreciation), in which case we need to find ways to allocate them to the bottom-level centres (Universidad Politécnica de Madrid, 2015, *Modelo de Contabilidad Analítica para Universidades Públicas*, pp.19-24):

- *number of credits* for distributing the costs for the materials used in the course of the teaching activity, laboratory activities, etc.;
- *number of persons* for distributing the costs for the materials used in the course of the office teaching activity, etc.;
- *number of users* for the distribution of various costs for services (repairs, utilities), etc.

This paper aims to provide a general overview of this management accounting model for public universities, and the detailed overview of cost-sharing arrangements shall be the focus of future research.

*The revenue items*, in the case of Romanian universities, are identified in Law 1/2011 on National Education:

- revenue from tuition fees, charged to students;
- revenue from scientific research;
- revenue received as core funding from the Ministry of Education and Scientific Research;
- revenue received as complementary funding from the Ministry of Education and Scientific Research;
- revenue received from the Ministry of Education and Scientific Research as additional funding;
- competition-based funding allocated by the Ministry of Education and Scientific Research for institutional development;
- competition-based funding allocated by the Ministry of Education and Scientific Research for inclusion, scholarships, and social protection for students;
- revenue from sponsorships and donations;
- revenues from other activities (related, auxiliary).

According to Figure 1, we note that this model does not allow us to associate revenue to cost centres,

as these are associated to the activities. The revenues from tuition fees are allocated to finalist activities, and the revenues from research activities are allocated to the cost centres to which said activity is attributed. Competition-based core funding, complementary funding, and funding allocated by the Ministry of Education and Scientific Research for institutional development, as well as funding for inclusion, scholarships and social protection for students is allocated according to the standards set by CNFIS. We shall address this topic in our upcoming articles.

## CONCLUSIONS

The aim of this study was to present a management accounting model that can be easily adapted to Romanian universities. Knowing, at a moment's notice, several key indicators such as the cost of a Bachelor's Degree, Master's Degree or doctoral programme (as well as the total costs involved), the degree of occupancy of each Bachelor's Degree/Master's Degree programme.

All this information contributes significantly to the management process. The study of the implementation of such a system to the accounting of Romanian universities is in its incipient stages. Our future research shall address cost-sharing arrangements between cost centres and activities. It is a difficult task, as at the moment budget accounting prevails, the budget being the only control instrument at this time. Preparing a management accounting model is a difficult endeavour, and its implementation is even more difficult. Politics aside, the technical aspect is very important at the moment, as adapting software to the new requirements involves high costs.

**ACKNOWLEDGEMENT:** We would like to thank Mr. Manuel Clavero Iglesias, Jefe del Servicio de Contabilidad, Presupuesto y Tesorería and Mr. Miguel A. Lopez Quián for the kindness shown in presenting us the implementation of the C.A.N.O.A. model at the University of Santiago de Compostela.

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