

FROM THE DIFFUSION TO THE APPROPRIATION OF COST ACCOUNTING IN A FRENCH UNIVERSITY: BETWEEN INSTITUTIONAL PRESSURES AND ACTORS' GAME

Hamza El Kaddouri *

* Research Centre for Contemporary Accounting, Finance, and Economics, Business School,
University of Bedfordshire, the UK

Contact details: Research Centre for Contemporary Accounting, Finance, and Economics, Business School, University of Bedfordshire,
Luton, LU1 3JU, the UK



Abstract

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This article presents the results of research conducted on the diffusion and appropriation of cost accounting at a French university (Hatchuel & Weil, 1992). Following the reforms put in place after the adoption of the LRU (Liberties and Responsibilities of Universities — Law on Universities) in 2007, this university adopted the SIFAC (*Système d'Information Financier Analytique et Comptable* — Analytical and Accounting Financial Information System) management tool, whose objective was to deeply modify the accounting and budgetary practices and allow the implementation of a cost accounting system (DiMaggio & Powel, 1983). But concretely, nine years after the implementation of the SIFAC tool, we noticed that, if technically, the accounting and budgetary practices have improved, the adoption of this tool did not lead to the implementation of a real cost accounting system. The findings showed that this situation could be explained by three factors: factors related to the tool itself, factors related to the specificity of the host organization, and factors related to the priorities of the actors within this university.

Keywords: Cost Accounting, Universities, Diffusion, Appropriation, Actors' Game

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1. INTRODUCTION

In France, a set of reforms, inspired by the precepts of the new public management (NPM) (Hood, 1991, 2000), were introduced in the French public sector and more specifically in universities. These reforms are supposed to “modernize” the organisation and functioning of universities, by moving from a logic of means to result-based management (Bezes et al. 2011; Carassus, Baradat, & Dupuy 2011; Boitier & Rivière, 2013).

These reforms have brought new challenges and “have resulted in a considerable and rapid increase in the complexity and uncertainty of the university environment” (Gillet & Gillet, 2013, p. 55) and require the development of new management tools (cost accounting, balanced scorecard, etc.). It is within this framework, under the impetus of the OLFL (Organic Law on the Finance Laws) of 2001, the adoption of LRU legislation (Liberties and Responsibilities of Universities) in 2007, and the transition to ERC (Extended

Responsibilities and Competences) that the management tools have gradually been institutionalized in French universities (Meyer & Rowan, 1977; DiMaggio & Powel, 1983).

In order to analyse the diffusion and appropriation of these university management tools in practice (Hatchuel & Weil, 1992; David, 1998), we spent five months in immersion within the Management Control Department of a French public university.

This university is one of the first universities in France to have accessed to the ERC and adopted the SIFAC¹ management tool, whose objective was to deeply modify the accounting and budgetary practices and allow the implementation of a cost accounting system, which the old NABUCO² tool did not allow. But, practically, seven years after the reforms and the implementation of the SIFAC tool, we noted that, if technically, the accounting and budgetary practices have improved, the adoption of the SIFAC tool did not lead to the implementation of a real cost accounting system despite the formal obligation for the French universities to establish this system. This is a paradoxical situation because we might think that because of the injunctions of the State and the financial constraints, the French university would place the development of a cost accounting system at the centre of its priorities.

Our research seeks to understand the conditions which help to explain the limited diffusion and appropriation of cost accounting in this university in practice.

The remainder of this paper is structured as follows. Section 2 reviews the relevant literature. Section 3 analyses the methodology that has been used to conduct empirical research. Section 4 is on the main results and discussion. Section 5 concludes the paper.

2. LITERATURE REVIEW

2.1. Cost accounting in universities: Elements of the context

Numerous studies have been interested in the study of public organisations and their modalities of specific functioning (Musselin, 2021). Concerning the universities, Braun and Merrien (1999) have studied decision-making processes within higher education institutions. They propose four main forms of analysis:

The collegial approach, in the sense of Millett (1962), is based on the search for consensus in decision-making processes and the ability of academics to organise themselves without any external hierarchical authority as a profession.

The political approach, as described by Salancik and Pfeffer (1974), focuses on taking into account the conflicts and bargaining between interest groups in the formulation of university decisions.

The bureaucratic perspective, as highlighted by Blau (1973), argues that universities are a decentralised form of bureaucracy, based on

the standardisation of skills and procedures (reintroduced by Mintzberg, 1982, in the terms of his model of the professional bureaucracy).

The “garbage can” model, initially proposed by Cohen, March, and Olsen (1972), according to which the university is seen as organised anarchy, characterised by a complex production process, without shared objectives, with members who are not very active in decision-making process. In this model, decisions are the result of an encounter between flows of problems and available solutions.

To add to these four approaches illustrating the typical functioning of universities, Yelder and Codling (2004) point out that the collegial approach of the post-war traditional university has been eroded under the increased influence of corporate management over the last thirty years. It is to this last approach that the “modernisation actions”, affecting public universities in France, are related. These reforms are part of a larger movement of the so-called *new public management* (NPM) (Hood, 1991; Ferlie, Ashburner, Fitzgerald, & Pettigrew, 1996) that has emerged in many OECD countries since the 1980s.

The NPM reforms cover “all the processes of finalisation, organisation, animation and control of public organisations aiming at developing their general performances and steering their evolution in accordance with their vocation” (Bartoli, 1997, p. 98). Starting from the perceived problems that affect the public administration in general: “allocative inefficiency” (excess supply, overproduction of certain services) and “productive inefficiency” (waste of resources, excessive production costs) (Burlaud & Simon, 2003), NPM reforms often seek to drive up levels of organisational efficiency in public agencies.

This new system militates for the passage from a Weberian public administration governed by the respect of the processes and the rules to the NPM style of public management governed by a concern for results. It places at the centre of public management the notion of “performance”, by conveying a discourse referring to the preferred methods of private organisations and the introduction of practices directed towards greater efficiency and effectiveness (Hood, 1991, 1995).

This evolution of French public management towards the managerialist model (Chatelain-Ponroy, 2008; Barone, Mayaux, & Guerrin, 2018; Belorgey, 2018; Simonet, 2021), coupled with a tense economic context, led to the implementation of a number of reforms and particularly the LRU legislation in 2007.

The LRU legislation has gradually introduced new rules and practices in the areas of governance, financial, and human resources management in all public higher education and research institutions. But the major change introduced by this new law is the accession of universities to the ERC, which now gives them more responsibilities and autonomy in managing their financial and human resources. This reform “has led to a considerable and rapid increase in the complexity and uncertainty of the university environment” (Gillet & Gillet, 2013, p. 56).

However, the transition to ERC was accompanied by strengthening accountability of French universities (Boitier & Rivière, 2013; El Kaddouri & Ajeeb, 2021; El Kaddouri, 2020). It is in this perspective that the LRU legislation in its

¹ *Système d'Information Financier Analytique et Comptable* — Analytical and Accounting Financial Information System.

² *La Nouvelle Approche Budgétaire et Comptable* — The New Budgetary and Accounting Approach. A management tool that was set up in French public administrations after the reforms of the State of 1990. It is replaced today by the SIFAC tool in most universities.

Article 711-1 requires universities to “implement a system of management control and decision-making tools to enable them to take on all their new missions, competences and responsibilities, as well as to follow up on multiannual establishment contracts”. Thus, the management control system becomes an unavoidable mechanism in the reform of universities. Subsequently, the financial decree of 2008 specified the nature of the management control tools to be implemented, including the calculation of costs and the implementation of cost accounting: “each establishment must have a cost accounting system whose procedures and methods are in line with those proposed by the General Accounting Plan”³.

Cost accounting is defined by the CNC (National Accounting Board) as: “A permanent information tool for measuring performance and helping decision-making within the company”. The purpose of cost accounting is to “produce information that allows to model the relationship between the resources mobilised and consumed, and the results obtained, both in a predictive perspective to help decision-makers, and in a retrospective perspective to measure performance” (Bouquin, 2005, p. 5). Its object is to value the consumption of resources engendered by a cost object (Burlaud & Simon, 2003).

However, it should be noted that the introduction of cost accounting in French universities is not due solely to the LRU legislation. In fact, this new law has only accelerated its institutionalisation. A Decree of 29 December 1962⁴ had earlier introduced the following elements in the Education Code: “The accountability includes a General Accounting and, depending on the needs and characteristics of each public body, a Cost Accounting and one or more special accounts of materials and values” (Article 51).

As operators of the competitive economic sector (research on contracts, leases, sales of publications, executive education, etc.), the universities are subject to legal obligations, in particular those related to the competition law and the application of tax rules, in compliance with national and European requirements. As such, they must be able to justify the costs of their operations.

In order to better understand the conditions for the diffusion and appropriation of the cost accounting system within French universities, we put this study in the line of the research that is inspired by the neo-institutional and game theories.

2.2. Diffusion and appropriation of management tools in the universities in the light of environmental constraints and actors' games

Our research adopts a qualitative methodology with an inductive approach. In this approach, the investigation is generally driven by the observation and the analysis of the collected data rather than by theory (Giordano, 2003). However, an inductive approach does not prevent us from using existing theory to guide our reasoning (Saunders, Lewis, & Thornhill, 2012). Therefore, we will use neo-institutional and actors' games theories.

2.2.1. Neo-institutional theory

Our objective is to understand how a management tool is implemented and how it is used or could be used in organisations. Therefore, it is important to first consider the way in which it is imported. In that regard, De Vaujany (2006) highlights that the implementation of new management tools in organisations is increasingly driven by “external” factors. The research stream that enriches the reflections on this observation is the neo-institutional theory.

The starting question of this theory is: Why do organisations become similar? In response, neo-institutional theory shows that the organisation's environment exerts pressure on the organisation and influences its structure and in this case leads universities to adopt the same organisational practices and forms as those predominant and visible in their environment. To gain legitimacy, organisations align with rationalised institutional myths (Meyer & Rowan, 1977), by adopting structural attributes displayed by other important organisations through an institutionalisation process.

In line with this research stream, the work of DiMaggio and Powel (1983) highlights the concept of institutional isomorphism to explain this process of institutionalisation. For these authors, three major forces lead organisations to become isomorphic with their environments:

The coercive isomorphism: Results both from the formal and informal pressures that the environment exerts on organisations belonging to the same field. These pressures may come from the regulatory aspects or standards imposed by the State or society and imposed on organisations. As a result, organisations would adopt management tools in response to institutionalised and legitimised rules.

The postulates defended in the coercive isomorphism are close to those of the dependency theory. This theory, as pointed out by Pfeffer and Salancik (1978), states that the organisation is dependent on its environment in terms of raw materials, labour, equipment, etc. This dependence on external resources requires the organisation to manage the demands of interest groups that have the power to impose structures, organisational processes, pricing, products and services to be provided.

The normative isomorphism: Another force highlighted by the authors. It is linked to the professionalization in a given organisational field. Two aspects are considered important sources of professionalization (Huault, 2009): the first one relates to the formal education systems and the other relates to the growth of professional networks through which organisational models are disseminated. In this perspective, actors in the same profession would adopt standards of behaviour and techniques perceived as legitimate by the profession independently of their effectiveness.

The mimetic isomorphism: Refers to the organisations' behaviour in a situation of uncertainty. When the organisation goes through problems whose causes are obscure or ambiguous objectives, it imitates ideas that are widely accepted or which in the past have been perceived as performing by the market leaders. Thus, ready-made

³ Article 46 of Decree No. 2008-618 of 27/06/2008 on the budget and the financial system of universities which have acceded to the RCE.

⁴ <https://www.legifrance.gouv.fr/loda/id/LEGIARTI000006359852/1962-12-30/>

solutions are adopted, which in one way or another leads to the generalisation of certain methods in a given organisational field.

Despite these pressures on the organisation that drive it to disseminate organisational models or management tools within it, is the appropriation of these elements automatic? How do the actors in the organisation behave in practice?

2.2.2. Actors' game

Influential currents of thoughts in the sociology of organisations now reject the theory of deterministic behaviour in organisations. For the authors (Crozier & Friedberg, 1977), who put their research in this perspective, the structured set of human relations that underpins the organisation and which alone gives it life is not passively shaped by situational constraints. It obeys a set of power relations articulated in the form of games in which relatively autonomous actors pursue their divergent interests and negotiate their participation. Depending on the positions they occupy and the sources of power they control, these actors will naturally have to act so that the solutions adopted to solve the problems posed by technology and the environment are compatible at least with the maintenance of their own negotiating capacity within the organisation.

In the same order of ideas, Moisdon (1997) highlights the normative character given to the management tools by neo-institutional theory. For this researcher, if the use of management tools in all the fields of management of organisations is an established fact because of their increasing number in both private and public organisations, the discourse that surrounded their strong expansion after the Second World War and particularly their optimizing capacity needs today to be nuanced. The author emphasizes the unrealistic nature of the rationality hypotheses integrated into the management tools and concludes on the basis of his clinical approaches that the use made of the tool or its structuring depend on the tool-structure relationship. Thus, the management tools seem to have two sides: one oriented towards conformation, in the form of a prescription or an incentive, and another side oriented towards knowledge since a management tool is always a simplified representation, even imperfect, of the situation faced by the actors (Moisdon, 1997).

This analysis of the diffusion and appropriation of management tools appears in the work of Hatchuel and Weil (1992), in which management tools are considered as a result of three distinct but interacting elements: a technical substrate, a management philosophy, and a simplified representation of the organisation. This model of analysis has been mobilised in numerous studies and, in particular, by David (1998) to complete his analysis of management tools, as follows:

A technical substrate: The technical substrate corresponds to the intrinsic characteristics of the tool. It is the set of "symbols that makes its representation possible, and it is also the concrete elements that allow its functioning". It is the technical abstraction that allows the tool to function (David, 1998, p. 47).

A management philosophy: The management tool is often implemented to meet the management needs of organisations. As such, it is an instrument for action. As David (1998) points out, "management philosophy and efficiency theory constitute a model of action which reflects both the wave of rationalisation to which the tool can be attached and, on a more concrete level, the objectives targeted by those who want to implement and use the tool" (p. 48).

A simplified representation of the organisation: This term refers to the roles of actors and the structure of the organisation that carries the tool. The way actors should behave in order for the tool to function normally and the behaviour that actors should adopt in their interaction with the tool. "The tool implicitly carries an ideal organisation, that is, the one that should exist for the tool to work perfectly" (David, 1998, p. 48).

These theoretical references have oriented our investigation towards three main points: the exploration of the tool itself, the understanding of the organisational structure of the university, and finally, the main actors whose decisions can influence the diffusion and appropriation of the tool.

3. RESEARCH METHODOLOGY

As we mentioned in the introduction, this research took place in a French public university where we spent five months in the Management Control Department. We had access to this university under a research-participation contract. David (2000) characterizes this research methodology as a device in which the researcher is content to be an observer depending on the actors. In this context, researchers become "the witness of the social reality that we are going to study" (Jodelet, 2003, p. 153).

Once in the empirical field of research, we found that the actors of this university had a preference for some tools to the detriment of others, especially cost accounting. This is a paradoxical situation because the cost accounting tool within the universities is not an option but an obligation. Thus, we wanted to understand this paradox by asking the following research question:

RQ: Why are some management tools readily appropriable in their host organisation and others are not?

To answer this question, we adopted qualitative research with an interpretative perspective. As Demers (2003) points out, the interpretive logic "attempts to access to the representations of actors, to discover the different meanings of the organisational universe that are constructed locally and collectively" (p. 180). Our objective here is to understand an organisational phenomenon which explains our positioning. Likewise, in the light of little current work on the development of cost accounting in universities, we have placed our research in an exploratory approach. For this purpose, we used three main sources of data: a participant observation (participation in Management Control Department meetings, informal discussions), documentary research (University Council's Report, Auditor's Report, Budget Framework Letter, Strategic Plan, The Evaluation

Agency for Research and Higher Education Report) and semi-directive interviews.

Our interviews were conducted with the stakeholders intervening at the central level of the university. The choice of these stakeholders can be qualified as orientated: it is not a question of gathering the opinion of all categories of university actors but of taking into consideration those who are in decision-making and strategic positions and those in important managerial positions. In total, during this study, eight semi-structured interviews lasting from one hour to one and a half hours were conducted with the following members of the university:

- First Vice-President of the University;
- Vice President of the University in charge of Finance;
- A Professor of Accounting in charge of SIFAC tool and internal control;
- The General Director of Services of the University;
- The Head of the Management Control Department;
- The assistant to the financial director in charge of the SIFAC tool;
- A member of the Management Control Department in charge of surveys and indicators.

In our interviews, we have used a questionnaire as a guide allowing the interviewees to express themselves freely about their needs according to their position within the university. The role of the interviewer was therefore to focus the interview on the themes studied (Nils & Rimé, 2003). Based on the theoretical benchmarks mentioned above, our questionnaire addressed the following questions:

- The conditions of the implementation of the SIFAC tool in the university.

- The use of the SIFAC tool in its three components: the accounting component, the budget component, and the cost accounting component.

- The need for management tools: Why these tools, for whom, and for what needs?

- The panorama of existing management tools: Why these tools, for whom, and for what needs?

The processing of the data collected through interviews was realized using the categorical analysis described by Miles and Huberman (2003) which includes a data condensation phase, an organisation phase, and a data presentation phase. Finally, the processed data were triangulated with data from internal and external documentation in order to ensure the validity of the constructs (Chalmers, 1987).

4. RESULTS AND DISCUSSION

The presentation of the results will first relate to the conditions under which the tool was implanted in this university and subsequently to the obstacles to its implementation.

4.1. The diffusion of SIFAC: A tool imposed by the State

From the analysis of the table, it appears that the SIFAC tool, which led to the implementation of the cost accounting, was introduced into the university under the pressure of external organisations.

Table 1. The factors that contributed to the introduction of SIFAC within the university

<i>An obligation of the State</i>
As a result of the NABUCO interruption in 2008, the state imposed a modern management tool for the universities accessing the ERC (extended responsibilities and competences). The university then formed a team led by a professor of management and the head of the Management Control Department. Thus, following numerous meetings, the university decided to adopt the SIFAC tool. The introduction of the SIFAC tool has made the implementation of a cost accounting system compulsory in universities.
<i>The recommendations of the auditors of the IGAENR (The General Inspectorate of the National Education and Research Administration)</i>
For the transition to the RCE, there was an audit of the IGAENR which led to the formulation of a number of recommendations for improvements. Some of these recommendations suggested that the SIFAC tool could provide solutions to the universities and help them better perform their new responsibilities and competences.
<i>Within the framework of the PRES*</i>
In the region where the university is located, some universities are already using the SIFAC tool, and within the framework of the PRES, it seems appropriate to have the same information system.

Notes: * PRES — “Pôles de Recherche et d’Enseignement Supérieur” (Centers for research and higher education). Established by French law in 2007, it’s a form of higher-level organisation for universities that aimed to make their various systems consistent, to pool their activities and resources.

Other research focuses on the development of management tools in universities (Guillot, 2000; Solle, 2001; Dreveton, Lande, & Portal, 2012; Bollecker, 2016), and more generally on organisations close to our field of research, such as local authorities (Meyssonier, 1993; Letort, 2015), came to the same conclusion that, in most cases, the approaches of implementing management tools are based on standard ideals or approaches imported from other organisations without attempting to adapt them to the context of the organisation in which they are implemented. These external organisations behave as a sort of market for management tools supplied by various experts, which would operate on the principle of “ready-to-wear”.

At the same time, as this market praises the merits of the management tools it develops, there is an increasing professionalization of the actors of the organisation responsible for applying these “machines” of rationalization. These actors have been trained in the major business schools and management institutes on methods disconnected from the organisational context (Fabre & Bessire, 2006).

We find here all the elements evoked by DiMaggio and Powel (1983) in neo-institutional theory, factors that lead organisations to be similar. Today, in France, more than 100 universities and other institutions have implemented SIFAC with the three components: financial accounting, budget, and cost accounting.

But as the neo-intentional theory suggests, is the organisation in which the tool is implanted passive? Is the behaviour of the actors of the organisation really disconnected from internal needs? How can we explain why in our case study cost accounting is difficult to establish?

4.2. From the diffusion to the appropriation

From the analysis of the current practices in the university and the results of our interviews, we can group the factors that influence the development of cost accounting in this organisation into three levels: the relevance of the tool, the feasibility of the tool, and the priorities of the actors.

4.2.1. Cost accounting: For what purpose?

One of the points that came up frequently in our interviews is the relevance of cost accounting with the full cost method and for all university activities (initial and further education, research contracts, etc.).

While the law asserts that “each institution has a cost accounting system whose procedures and methods are consistent with those proposed by the general accounting plan” (Article 45 of Decree No. 94-39 of January 14, 1994), in our case study, the actors chose not to implement a complex system to measure the consumption of the resources generated by the objects of cost, but to develop a kind of targeted measure. So we have the following.

For the further education and the research contracts

The university has already implemented an “environmental” cost calculation for its university certificates (*diplômes d’université*) including direct costs (academic staff, in particular) and certain indirect costs. This “environmental” cost gives a measure of resource consumption higher than the marginal cost but less than the full cost and allows the university to re-allocate this cost to the faculties because these courses are not funded by the SYMPA model (system of allocation of resources based on performance and activity). The university plans to improve this model to integrate more charges but as stated by the General Director of Services:

“SIFAC allows the implementation of the cost accounting but it’s necessary to put in place a fundamental work on the keys of distribution. We did not have time to do it. But it will have to be done at one time or another. Well, our President of the University thinks it could be interesting, but because we do not have enough staff to do that, the President is satisfied with what is done on these courses even if it’s done in a basic way”.

At the beginning of our mission, the head of the Management Control Department asked us to draw inspiration from what is already done at the university certificates level to propose an analytical structure to the faculties. Our work consisted of proposing an analytical structure to different faculties according to their specific needs. Most of the faculties we have been working with are developing further education courses and therefore needed quantitative information on the consumption of resources to determine the costs and also to justify to the region the use of funds

received. Despite almost similar needs in each faculty, it was impossible for us to propose a typical analytical structure. Indeed, between face-to-face teaching, online teaching, and mixed approach to providing these courses, we do not have the same cost objects.

We did the same work for the research laboratories as well. In this area, things are even more complicated because each partner has different methods when it comes to the items to be incorporated into the costs. Here we reach the limits of the development of management tools in complex organisations (Fabre, 2010) like the universities.

For the initial education

In the case of initial education, the university has introduced certain norms (minimum number of students required to start a course, minimum number of students per group for seminars, etc.) which aim to compel the faculties rather than trying to calculate the cost of the courses provided. In this sense, the head of the management control department stresses that:

“It goes back to what I was saying earlier, what is the use of the results I will expect if I invest resources in an operation. If I am going to do the full cost calculation of a degree, it’s always interesting intellectually but what is at stake behind. In our university, the resources delegated to the faculties are very limited, because everything is centralized. The tuition fees do not go to the faculties, they go to the general services that pool all the services and means of the university. So there is no such logic of attribution of means to faculties on the basis of the resources they consume. Therefore, for the initial education, there are no issues of allocation of resources or negotiation, where we would need decision-making tools such as Cost accounting. However, when it comes to our own resources, the further education, which is 100% self-financing, there is not even one Euro of the general operating fund that goes in, in this case there is a need for an analytical tool”.

This mode of reasoning is highlighted in the literature by the work on the theory of the contingency of management tools (Moisdon, 1997). In research on management accounting, we have the work of Sandretto (1985), professor of management control at Harvard Business School, which argues that cost accounting must be adapted to the activities and environment of organisations. According to this author, the feasibility of a costing system, and the services it provides to the manager depend on several factors. In some situations, such a system is quite desirable and the necessary cost to design, implement and maintain it is low. In other cases, cost information remains desirable, but you have to pay too much to get it. Finally, in other cases, cost information is of little interest.

In the same sense, Baranger (1995) proposes a broader analysis by integrating the management variables of the organisation. For this author, the choice of a method of costing depends on two variables: on the one hand, the type of organisation through its production process and the nature of its activities, and on the other hand, the management variables; such as the culture and values of the organisation, the objectives pursued by

the organisation, the management strategy, and the organisational structure. For the author, the interest in the methods depends on the situations and the management problems confronted by the organisations.

In the same order, Bessire and Fabre (2006), based on the observation of the processes of implementation of the management accounting tools in different organisations, propose a table that links the type of problem to the type of possible solutions. For these authors, there is no universal method. The choice of the method depends on the nature of the company's activity, its organisation, and the information that managers want to obtain.

What we can retain at the present stage of our knowledge — or at least our reasoning — is that the cost accounting is not a universal tool that would be based on typical ideals or methods popularized by the change management consultants or lessons in business schools or universities (Fabre & Bessire, 2006). It is rather a contingent tool. The cost accounting, like any other management tool, “depends on what we want to do with it” (Fabre & Bessire, 2006, p. 74).

It should be noted that universities today benefit from inter-organisational learning in their process of appropriation of management tools. The feedback from experience (for example, the General Director of Services of the University, which was the subject of our study, worked for more than twenty years in a local council), but also much research on the development of cost accounting in organisations close to universities such as local authorities (Meyssonier, 1993; Bargain, 2012; Letort, 2015) prevent them from implementing sophisticated tools that ultimately are not used as they should or even which will be abandoned. We also have the effect of intra-organisational learning, in fact, the main actors of the university are grouped around the professional associations, which allows them to exchange good practices. And it is on the basis of what is happening in other universities that the General Director of Services decided not to invest too much to implement the tool. She said:

“For me, I think we should have a form of cost accounting with the full cost method but what I have seen in other universities has not convinced me on the true relevance of this tool”.

In addition to the usefulness of implementing cost accounting at the university, the second factor that could influence the development of this tool is the ease of its operationalization.

4.2.2. Technical constraints as limited resources are available

“A cost is the monetary expression of the value of the consumption of factors engaged by an organisation or an entity for a given production at a given moment in order to better control both the internal operating conditions of the organisation and those of its economic relations with the environment” (Burlaud & Gibert, 1984, p. 95). The first point that emerges from this definition is that the cost of a good or service is the monetary expression of the resources consumed in the production of that good and service. Therefore, to calculate a reliable cost, it is necessary to monetary evaluate the consumption of resources that contribute to its formation.

During our immersion period within the university studied and in particular the support of the faculties in the definition of an analytical structure, we were confronted with two major issues: how to measure the academic staff working time and their hourly rate of pay?

Measuring the working time of academic staff: A struggle against complexity

The authorities (IGAENR and AMUE⁵, in particular) responsible for supporting the autonomy of French universities are unanimous that the management of academic staff positions is the central point in controlling the cost of courses because these positions represent more than 70% of universities' expenditures. However, managing the jobs of academic staff depends certainly on the ability of universities to appreciate their needs in terms of personnel as well as the ability to measure their working time. In this context, the Decree No. 2009-460 of 23 April 2009⁶ proposed a flat-rate distribution as follows: “The reference working time, corresponding to the working time set in the public service, is made up for half by a teaching activity determined in relation to an annual reference period equal to 128 hours of lectures or 192 hours of seminars or any equivalent combination in initial and further education... And another half, by a research activity recognized as such by an evaluation, carried out under the conditions laid down in Article 7-1 of this Decree”.

On an annual basis of 1607 hours divided half for teaching activities and the other half for research activities, this implies that an academic who gives one hour of a lecture devoted 6.30 hours of effective work. Similarly, one hour of the seminar would require 4.2 hours of effective work by the lecturer.

This distribution, as the AMUE points out, is acceptable but globally incompatible with the vision of steering put forward in the 2007 reform. To this end, it proposes a working time declaration system that would be more realistic. However, setting up such a system presupposes the participation of the academic staff, which is not easy, as confirmed by the SIFAC project officer at the university:

“... the whole structure that was imagined as of the changeover was based on this logic. After the first interviews, we realized that it will be difficult to implement a real cost accounting system for our courses, (given that) the main cost is the time allotted by lecturers and none of them would agree to participate in this process to tell us how much he/she participated in terms of research or teaching”.

Even though the academic staff agreed to participate in this exercise, Ducrocq and Gervais (2013) show that there is a bias between the time effectively worked and the time declared. This bias would be due, among other things, to the complexity of the work of the academics: the multiplicity of places of work (home, office, and laboratory), leisure and working time that may overlap, etc.

These difficulties related to the measurement of the working time of the academic staff would be removed if the universities had the means to

⁵ The agency for the mutualisation of universities and higher education institutions. It is responsible for supporting universities in their modernization process.

⁶ https://www.legifrance.gouv.fr/jorf/article_jo/JORFARTI000020552245

implement their own policy. However, the transition to the ERC has not been accompanied by an increase in resources allocated to universities, while at the same time, the information to be produced for the Ministry of National Education is increasingly important. This creates considerable additional work to make this reporting work to the detriment of the concentration on the strategic priorities. As confirmed by the Head of the Management Control Department:

"... there is also a question of time, given that there is a strong understaffing of both administrative and academic staff. If we had people who are bored and we do not know how to occupy them, perhaps we would have worked on it. But today we are in a tight flow everywhere. If we want to do a serious work on this subject, we will have to put at least one person who will totally devote himself to it. Today there are no resources available".

The lack of resources in French universities makes it very difficult to establish reliable cost accounting that takes into account the complexity of the university's production system. This must be added to a problem of professionalization. With the implantation of SIFAC, the "basic" secretaries have become financial managers in the faculties, but without any accounting or financial training. For the latter, making an expense by respecting the right cost or profit centre is not easy. In addition, they must use SIFAC, a very complex tool imported from the private sector, without any semantic adaptation. All these factors do not encourage them to appropriate the tool as they are already tied up with their day-to-day tasks of the secretariat.

The second major issue we faced was the hourly rate of pay for academic staff.

Some variables are difficult to determine: The hourly rate of pay for academic staff

The calculation of the cost of a course, for example, will be done largely by the determination of the hourly rate of pay for the academic staff involved in this course. However, as demonstrated by Ducrocq and Gervais (2013) in a case study, this hourly rate can vary widely due to the status of the interveners.

In fact, in order to provide its courses, the university uses two categories of staff: permanent and contract staff. The lecturers and PRAG (secondary school teaching staff assigned to universities) constitute the core of the permanent staff. While the contract staff includes hourly paid lecturers (who are external and work in the industry), ATER (temporary teaching and research associates), and doctoral students.

In a given course, the real cost of hourly paid lecturers can be determined without ambiguity because the hourly rate is fixed. However, the real hourly cost of the permanent staff depends on several variables, including their remuneration index, the various bonuses and indemnities received (bonus for research, Ph.D. supervision bonus, scientific excellence bonus, etc.), the type of hours worked (statutory or complementary hours) and their family situation. Therefore, we are in an organisation where it is very difficult to make the link between the object of cost and the consumption of resources generated by this object of cost.

We can have a course with a reasonable number of students, a reasonable volume of hours but it is very expensive because the course is assured by the "old professors". What is the meaning of the cost of a course in this situation?

Finally, the last factor emerging from our interviews is the priority of the actors.

4.2.3. The priority of the actors

The last element that emerges from our interviews and that had an impact on the appropriation of the cost accounting in this university is the priority of the actors. We identified two types of rationalities: political rationality, carried out by the presidency teams (the presidency's priority), and operational rationality, carried out by the administrative services (mainly by the General Director of Services).

A president whose goal is to find financial resources for his university

For the respondents, the weak appropriation of the cost accounting in this university is mainly explained by a lack of engagement of the political team in this project. Indeed, the manager in charge of the SIFAC tool stresses that:

"We had several meetings with the Presidency team about the implementation of a cost accounting system. We have tried to highlight the advantages that could be brought by this system mainly in terms of strategic steering. For the President, it was not necessarily a priority. Because it was the time when the President was negotiating the budgets granted by the government within the new framework of the autonomy and the transfer of the payroll. Our President, preferred to have the Management Control Department focused on this strategic issue, which was going to commit us over several years, than on a tool to which he saw no interest, except to obtain some KPIs. For the President the tool was not necessary".

But what is the priority of the presidency team? The work of Mintzberg (1982) on organisational structures could be used to provide some answers to this question. According to Mintzberg, the functioning of the university is close to that of a conglomerate (the purest form of the divisional structure) composed of divisions (faculties that are professional bureaucracies) weakly integrated and linked by a centralized structure, which is the presidency of the university. In this structure, the interdependencies between the divisions are limited to the sharing of resources. Therefore, the role of the presidency would be to obtain the maximum financial resources from, its main funder, the central government, and then to distribute this resource to the faculties in the form of a global allocation for the operation or payment of shared services.

Therefore, we understand why in this university, the Management Control Department is more focused on producing indicators or surveys related to the SYMPA system, which will be used to calculate the overall allocation that the Government will allocate to the university to the detriment of the implementation of the cost accounting system.

Another rationality highlighted in our interviews is the operational rationality carried out by the administrative staff of the university and headed by the General Director of Services.

A General Director of Services whose priority is the conduct of reforms

In our interviews, it is clear that cost accounting does not appear to be a priority in steering the changes introduced by the reforms. Among the priorities of this university in terms of management tools, there are two main systems: one for the management of the payroll and another one for the control of the teaching hours.

For the payroll, the university has set up a specific service for the management of the payroll, but in reality, this service spends more time on reporting than trying to come up with forecasts of the future evolution of the payroll. In this sense, the university plans to invest in new software making it possible to predict the future payroll.

Concerning the control of teaching hours, the university is in the process of installing a software program that would automatically manage the teaching hours for each course and thus limit the increase of complementary hours. These two priorities are confirmed during our meeting with the General Director of Services when she says:

“The Ministry asks us to set up a cost accounting system, but they don’t insist on this subject, but even if they do, for me very sincerely, the establishment of (name of the new tool), as a budgetary instrument and an instrument for forecasting our payroll, comes above all. So it is true that the degree of pressure that the Ministry is putting on us is also an element in the judgments, but honestly, even if the Ministry was putting a crazy pressure on us, with the limited resources we have, we cannot do it. We decided to focus our means on controlling the teaching hours which is not yet settled and on the tool for forecasting the payroll. These are the two true priorities”.

The priority of the actors responsible for leading the implementation process of a management tool is one of the factors determining its appropriation. And as shown here, the cost accounting system was not a priority in the eyes of the players at this university.

5. CONCLUSION

The objective of this study was to understand the factors of success and failure of a management tool in organisations and in particular the diffusion

and appropriation of cost accounting in a French public university. The findings showed that, on the one hand, the diffusion of the tool has been driven by external constraints and, on the other hand, the appropriation of the tool depends on three factors: the relevance of the tool, the specificity of the organisation, in which the tool is implemented, and the priorities of the main actors impacted by the introduction of the tool.

In the context of this study, we have to deal with a contingent tool whose shape depends on how it will be used by the actors. Cost accounting is not appropriate for any type of organisation such as indicators or scorecards. In addition, the university is a special organisation with a very complex production system which raises the problem of cost accounting. Finally, this tool does not meet the priorities of the actors of the organisation, which limits its appropriation.

The approach chosen to conduct this research has limits, whether it is methodological choices due to the central place we occupied in the project, or the duration of access to the research field. In order to objectify the research findings, we kept a daily diary to avoid ex-post reasoning from our sole memories. Likewise, the factors specific to our case study identified in this research should be tested on a larger population of universities and public organisations in general in order to be able to generalize the results obtained: a quantitative study could be carried out on this subject. Regarding the analytical framework that we have adopted, we must note that it could have been even more meaningful in a more longitudinal study. These limits are all research perspectives in the context of French universities.

The deadline set by the Decree on Budgetary and Accounting Management of Public Entities (GBCP) places French universities in an environment of change. Observing the construction of an unformalized tool, but compulsory to set up could lead to more precise answers on phenomena not linked to a particular entity.

Lastly, it could be interesting to take stock of these tools in a few years, to measure the degree of similarity between the consequences of the transformations of the public sector due to the NPM which were described by the researchers of the countries entering first into these logics (Hood, 2007; Lapsley, 2009), and those that recently start taking place in France.

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