Cost systems in practice: Exploring the socio-technical dynamics of cost systems in the field

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1. Introduction

Cost systems are fundamental to accounting, as they produce key information to evaluate the economic performance of the firm, feeding into a variety of other accounting practices (e.g. budgeting, performance measurement, transfer pricing, etc.). There is a large literature, informed by economics that has explored the design of cost systems in relation to the optimization of organizational performance (e.g. Kaplan, and Cooper 1998; Christensen, and Demski 1997; Christensen, and Hemmer 2007; Banker, and Johnston 2007). There is a large literature, informed by psychology that has explored the possible effects of how the design choices might produce systems that bias judgement and decision making in relation to accounting information (e.g.Birnberg, Luft, and Shields 2007). In this paper, informed by sociology, we highlight how the inner configuration of cost systems (e.g. choices of cost pools, cost drivers, etc.) is considered and reconsidered in relation to shifting networks of objectives and actors over time. We study these socio-technical dynamics of cost systems through an in-depth qualitative field study of the cost system of a French public sector housing organization association.

This study has two main motivations. Cost systems are fundamental for contemporary organisations and among their most important purposes are both facilitating decision-making and exercising control (Cooper, and Kaplan 1998; Baiman, and Demski 1980). Further, the information produced in cost systems informs various other management accounting practices such as budgeting, benchmarking and performance measurement (Kaplan, and Cooper 1998). Therefore managers draw on cost information in almost any managerial situation. Yet while most organisations have a cost system and continue to invest in them, they do often not fulfill the expected benefits (Gosselin 2006). This is the first reason for our interest in analysing how cost systems are actually used in practice.

Second, we seek to extend insights from the large bodies of work in relation to Economics (e.g. Banker, and Johnston 2007; Christensen, and Hemmer 2007) and Psychology (Birnberg, Luft et al. 2007), with an emphasis on the socio-technical dynamics of cost systems by drawing on research informed by sociology. Drawing on sociological theory to extend these traditions, may allow us to shed light on areas in practice, thereby bringing new research questions to the fore, and generating other and new theoretical insights (Chua, and Mahama 2012).
Economics based research has considered deeply cost system design, focusing mostly on their initial design with optimal firm performance being the main objective of the design (Balakrishnan, Hansen, and Labro 2011; Christensen, and Demski 1995; Labro, and Vanhoucke 2007; Kaplan, and Cooper 1998; Banker, and Johnston 2007; Christensen, and Hemmer 2007). This research has paid little attention to the ways cost systems are actually used in practice and how they may evolve over time. Psychological based research has studied how accounting may influence or alter actors’ perceptions of situations, and therefore their decision-making and thereby the resource allocation (see Birnberg, Luft et al. 2007, for a review). Studies in this tradition focus on how the cognition is biased by a certain configuration of accounting calculative frames (e.g. Luft, and Shields 2001; Krishnan, Luft, and Shields 2005; Chang, Cheng, and Trotman 2008; Jamal, Johnson, and Berryman 1995; Lipe 1993; Lipe, and Salterio 2000). While providing insightful results on how actors’ decisions are influenced by calculative frames, these studies do not take into account how these frames are produced by the actors.

Research drawing on sociology may shed light on new areas, notably on focusing on how cost systems are produced in practice over time, and how this impact organisational actors’ behavior. From the sociological perspective, accounting and particularly cost systems are not just organizational tools to enhance profit. This research recognizes the complex relation between accounting and the wider social context (Burchell, Clubb, and Hopwood 1985; Chua 1995; Preston, Cooper, and Coombs 1992; Chua, and Mahama 2007; Miller, and O’Leary 1987; Hopwood 1987). For example, Miller, and O’Leary (1987) emphasize how standard costing and budgeting are part of a wider social context, as they draw on and help constitute broader programmes of governance in modern society. Chua, and Mahama (2007) show how the technical and the social aspect of accounting numbers are inherently intertwined. These authors show that the definition of value, and how to measure it, is a social construction (Chua, and Mahama 2007). From this perspective, elements of the wider social context such as interests of specific groups, laws and regulations, institutions and professions may influence the inner configuration of accounting systems. In fact, the social and the technical may be intertwined in such a way that one may less speak about influence or interactions between the social and the technical, but of socio-technical dynamics, indicating that two elements are inseparably interwoven (Callon 1998b; Callon, and Muniesa 2005).

Some studies have started to explore such socio-technical dynamics of cost systems (Chua 1995; Anderson 1995). These studies emphasize that cost systems do not only calculate objective numbers, but they mediate and stabilises diverse interests. Nonetheless, while emphasizing their highly social
nature, these studies do not look into the black box of cost systems, i.e. their inner configuration. A notable exception is the study of Briers, and Chua (2001), detailing the implementation of a cost system and its role as a boundary object within the organisation. The results emphasize that while the cost system had been implemented for a certain purpose, it was abandoned once this purpose had been achieved.

Our paper has the objective to explore the socio-technical dynamics of the inner configuration of cost systems. More specifically, the paper considers the following overarching question: How are cost systems produced in practice? We answer this question in this paper by drawing on the theorisation of Callon (1998b).

One of the strengths of Actor-Network Theory (ANT) regarding the study of cost systems is that their socio-technical nature is acknowledged. From this perspective, cost systems are construed as calculative frames (Beunza, and Garud 2007; Callon 1998a; Callon, and Muniesa 2005; MacKenzie 2006; MacKenzie, and Millo 2003), which “do not merely record a reality independent of themselves; [but] they contribute powerfully to shaping (...) the reality that they measure” (Callon 1998b, p. 23). Therefore, calculative frames rely on an economic model, and shape the reality they measure in accordance with this model. Another strength of ANT lies in its emphasis on the social networks of actors that produce, support and promote these calculative frames and the related economic models. In other words, calculative frames do not derive mechanically from a hypothetic unique economic model, but the social network of actors supporting it, shapes this model. Finally, this approach also takes into account the production across time and space of these calculative frames.

Through a longitudinal field study carried out in a French public social housing organization, ASH, we examine the socio-technical dynamics of the inner configuration of a cost system. Data was collected via an in-depth qualitative field study carried out over 3 years. Having had extensive access to the site, the data for the study are derived from direct (observations including more than 100 meetings), archival documents, and 24 semi-structured interviews. It emerged that this cost system has been developed across time under different management approaches (public and private oriented). We also observed the impact the current configuration of this cost system had on organisational practices.

This paper has three main contributions. We find that the inner configuration of the cost system is the outcome of a temporal sociological framing performed by a network of actors over time. We thereby show that the production of the cost system design is an ongoing activity that develops in relation to shifting networks of actors and objectives. The economics literature has largely drawn the
boundaries of its interests to exclude such considerations as yet (although working papers following this literature have begun to show some interest in this (Anand, Balakrishnan, and Labro 2011). Further, we observed how these calculative frames impact actors’ perception of organisational situation and decisions, at the organisational level, then “explicating more carefully the mechanisms by which frames are invoked” (Lipe, 1993, p.762).

The findings also provide evidence that the dominant framing was stable over time, even when the network of actors, including some details of the inner configuration of the cost system, shifted. Changes of the inner configuration of the cost system were debated and driven by different notions of true costs (Labro, and Vanhoucke 2007; Cardinaels, and Labro 2008; Datar, and Gupta 1994; Christensen, and Dems 1995) held by the actors of the network (Briers, and Chua 2001; Chua 1995). Our result nuances and complements Briers and Chua’ study on the production of a cost system by an actor network. While Briers, and Chua (2001) focus on the production of an initial calculative frame, i.e. cost system, and its abandonment shortly thereafter, our study puts the attention to the evolution of the cost system across time. We analyze the socio-technical dynamics of the inner configuration of a cost system, that had been implemented many years before, and that was subsequently problematized and changed in only some respects that did not contest the established framing.

Finally, while previous research emphasizes the variation of perception between accounting and other practitioners (Kurunmäki 2004; Eldenburg, Soderstrom et al. 2010; Dent 1991; Ezzamel, Lilley, and Willmott 2004), this study provides evidence on intra-accounting variation. We found that management accountants and the CFO had different perception of organisational situations. We then show that they refer to different framings which provide different meanings to situations. What happened with the CFO, suggests that she was still influenced by another calculative frame produced by a different network. Actors may not switch from one calculative frame to another; in fact there may be a framing persistence across time and networks.

The paper is structured as follows. Section 2 presents the theoretical background. We review the accounting literature on cost systems, discuss our conceptual framework, Section 3 describes the research method. Section 4, examines the development, over time, of a cost system in a social housing organisation. This section subsequently describes a problematisation episode and the influence of a specific element of the cost system configuration on the organisational practices. Section 5 discusses the main findings of the research, points the contributions and suggests some possible directions for future research.
2. Theoretical background

There is a growing interest in the management accounting literature for actor network theory (Gendron, and Barrett 2004; Chua, and Mahama 2007) and particularly on how accounting is produced, promoted and supported by a network of actors (Preston, Cooper et al. 1992; Chua 1995; Skærbæk, and Tryggestad 2010; Robson 1992; Pollock, and D’Adderio 2012; Miller, and O’Leary 2007). ANT is an appropriate theory to study socio-technical dynamics of cost systems. In particular, it provides a set of concepts useful to better understand cost systems in practice.

Previous studies have drawn upon ANT to analyze the processes by which cost system are produced, and accepted or contested (Briers, and Chua 2001; Chua 1995). For example, studying the introduction of a Diagnosis Related Group system calculating costs per patient in Australia, Chua (1995) shows that this provokes the creation of a new category for clinical practice, namely costs of patients. She shows that this category was not merely an economic representation of clinical processes, but a social fabrication allowing linking interests of different actors involved. While focusing on the actors and their different interests in constructing the new category, this research does not consider details of the underlying inner configuration of the cost system.

Briers, and Chua (2001) analyze the socio-technical dynamics of an actor network producing a specific cost system, an Activity-Based Costing (ABC) system. The study puts the emphasis on the fragile nature of a heterogenous network of actors that driven by interest and faith, produces this powerful calculative frame. The implementation of the ABC was based on the strength of diverse ties tying together many heterogeneous elements across the network. Accountants, external consultants, but also managers who wanted more precise costing were forming these ties. The newly implemented ABC then led to divesting in a product line, which was found not to be profitable. Thereafter ABC was abandoned. While underlining the socio-technical dynamics of producing an initial calculative frame, this study necessarily pays less attention to the ongoing evolution of the cost system over time, in particular the evolution of its inner configuration and its the impact on behaviour over time.

We develop this approach to analyzing cost systems by focusing on the socio-technical dynamics of the inner configuration of the cost system across time. To do so, we draw on the joint notions of framing-overflowing (Callon 1998a). Initially developed to account for the economic market (Callon 1998a, 1998b; MacKenzie 2006; MacKenzie, Muniesa, and Siu 2007), the concept of framing has also been used to describe and analyze a variety of calculative frames including finance models (MacKenzie 2006; MacKenzie, Muniesa et al. 2007) and accounting systems (Callon 1998a; Miller 1998; Vollmer, Mennicken, and Preda 2009; Pollock, and D’Adderio 2012; Skærbæk, and Tryggestad
In particular, Muniesa, and Callon (2009) analysed the cost system of a French public electricity company, and put the emphasis on the important role played by internal economists and the wider context (marked by a regime transition from productivity to profitability), in the production of this calculative frame. Further, exploring how reporting is constructed, Christensen and Skærbæk (2007) show that its framing is in fact affected by differences in the institutional environment.

According to Callon, framing consists in a process of defining actors and objects, goods and merchandise who are clearly distinct and dissociated from one another (Callon 1998b, p. 17). This framing is performed by a network of actors be they human such as accountants, policy-makers, managers, or non-human such as regulations and informal or formal guidelines (Chua 1995). The outcome of a framing is typically a dominant, consensual and accepted calculative frame, such as a cost system or wider accounting systems.

The calculative frame creates then a boundary within which actors’ interactions occur. This boundary establishes a set of stable assumptions, conventions, mechanisms, and settings that are taken for granted (Callon 1998a, p. 249). However, such calculative frames “do not merely record a reality independent of themselves; they contribute powerfully to shaping (…) the reality that they measure” (Callon 1998b, p. 23). Therefore, calculative frames account for certain interests and matters, but also ignore others (Callon, and Muniesa 2005; MacKenzie 2006; Miller, and O’Leary 2007; Miller 1998; Vollmer, Mennicken et al. 2009). As such, they are incomplete and imperfect (Callon 1998a), and therefore they can be contested.

The contestation of the existing calculative frame by an actor or a group of actors is termed problematisation (Callon 1998a; Callon, and Rabherisoa 2008). This problematisation points to previously ignored matters due to the frames incompleteness. The emergence of certain elements that the frame does not account for is termed as an overflow (Callon, Lascoumes, and Barther 2009; Callon 1998a). The overflow is inseparably socio-technical as “they give rise to unexpected problems by giving prominence to unforeseen effects”. Controversies then allow revealing “events that were initially isolated and difficult to see, because they bring forward groups that consider themselves involved by the overflows that they help to identify. As investigations go on, links from cause to effect are brought to the fore.” (Callon, Lascoumes et al. 2009, p. 28)

If successful, a problematisation can lead to reframing of the existing calculative frame, so that these emerging concerns are taken into account. However, in order to be reframed, it is not enough to identify overflows, it is also necessary to identify who is responsible for them and who is affected by
them and to measure them (Callon 1998a). Overflows have then the advantage of making calculative frames visible, while highlighting their shortcomings and generating debates on ways of remediating them. However, it is important to note that the concept of overflow includes but is not limited to what economists call externality (Callon 1998a), as the overflowing is not always reducible to economic calculations (Barry, and Slater 2002).

However, here, we follow another stream of studies drawing on sociology. In Callon’s approach of framing, cost systems as calculative frames are considered as the outcome of framing, and as such they influence organisational actors’ behaviors. From this point of view, the cognitive dimension is peripheral, as the emphasis is put on organisational actors’ behavior. Further this approach takes into account the development of calculative frames over time.

Focusing either on the social effect of calculative frames or on their social construction, these studies do not examine in any significant depth their actual material configuration. If interpretive studies have analyzed extensively the social fabric of accounting systems, these systems are often treated as black boxes, and therefore remain opaque (MacKenzie 2005). At stake here is that, to understand how cost systems structure their contexts, we have to explore how those contexts are inscribed within these cost systems.

To sum up, ANT sensitized us to appreciate cost systems as calculative frames, which are produced over time by a network of actors. Accordingly, in this paper, we aim at investigating the following research question: What are the socio-technical dynamics of cost systems over time, and how is their inner configuration produced by a network of actors? The longitudinal nature of our fieldwork allows us to investigate the latter question across time, and to provide insights into these socio-technical dynamics.

3. Research method

This section introduces the research method and the data collection and analysis. This research draws on a qualitative longitudinal field study (Dyer, and Wilkins 1991; Siggelkow 2007; Ahrens, and Chapman 2006). In contrast to modeling and experiments, field study provides access to explore in detail how cost systems are produced in practice.
This field study was carried out in ASH\textsuperscript{1}, a French social housing organization, from March 2008 to May 2011. The study is relevant to our research question for two main reasons. First, the recent world financial crisis leads many western countries to implement or accelerate reforms in their social housing activities. Accounting plays a key role in public sector reforms, where pressures to perform and to account for economic performance have become increasingly salient (Suddaby, Gendron, and Lam 2009). Indeed, those reforms often rely on the introduction of private sector methods and accounting is a central tool to these changes in the organizational structure and systems (Hood 1995; Olson, Humphrey, and Guthrie 2001). Second, a longitudinal field study allows us to analyze the socio-technical dynamics of cost systems over time. In fact one of the authors, referred to in the following as the field researcher, had extensive and in-depth access to the field over three years. The material presented in this paper forms part of a larger research project with ASH and is subject to a confidentiality agreement signed with the organization.

The field study was carried out using three main data collection methods: observations of meetings, archival documents and interviews with organizational members\textsuperscript{2}. Observations and archival documents constitute naturally occurring evidence (Silvermann 1993) and interviews complement these. In particular, interviews with the CFO from other social housing organisations with similar status were conducted. These multiple sources improve the credibility of the data, by providing cross and complementary perspectives on emerging elements. In particular, interviews with the CFO from other public social housing organisations allow understanding that a key element of the inner configuration of the cost system, i.e. the treatment of labour costs, was neither specific to ASH, nor a technical mistake due to the incompetency of the management accountants. Using these multiple sources, we tried to build a reliable mapping of the situation through their triangulation (Jönsson, and Lukka 2007).

The data collection was carried during frequent and intensive field visits, with an average of two days a week during the observation period (from August 2008 to June 2009). First, access was granted to carry out observations, including the more than 100 formal meetings (see appendix 1). In particular, all the management and financial accounting meetings were attended, during which the functioning of the management accounting system was discussed. Various informal meetings were also attended. Extensive notes on these observations were taken, including employee comments and dialogues. Furthermore, a regular presence in the organization, allowed access to informal situations. As

\textsuperscript{1} Names have been changed, and the identities of individuals and firms have been altered to preserve anonymity.

\textsuperscript{2} All the documents, interviews and notes were originally in French and translated into English by the authors. Where the translation of a specific term was ambiguous, the original French term has been included in brackets next to the English translation.
conversations are the primary medium for social interaction, naturally occurring conversation is directly relevant evidence to understanding the role of accounting in the field (Silvermann 1993).

Second, archival data were available, including minutes of meetings, the documents used or produced during these meetings, minutes of unattended meetings, and other confidential documents related to the accounting system architecture and procedures, the public policies, successive reforms, and the external auditor reports. This material allows an understanding of the functioning of the accounting system. Third, to complement these first two sources of evidence, 24 interviews were conducted with financial and accounting staff, management accountants, CFO, management accounting director, but also wider management and operational staff (see appendix 1). Before starting interviews, all employees were assured that the information obtained would be treated confidentially. Interviews lasted about 90 minutes on average and were recorded and transcribed. When this was not possible, notes were taken during and after the interviews. For all of the observations and interviews, detailed field notes were also taken.

To explore the socio-technical dynamics of cost systems over time, and how their inner configuration is produced by a network of actors, the data has been analyzed following three steps (Ahrens, and Chapman 2006). The collected data were first organized chronologically. The data was then reorganized around emerging issues of significance to the analysis of how the inner configuration of cost systems is produced. Lastly, temporal stages emerged related to framing and overflowing in relation with the inner configuration of the cost system and operational activities. The analysis was driven by the investigation of the socio-technical dynamics of cost systems over time, and how their inner configuration is produced by network of actors. Owing to the richness of the data generated by the study, the three steps analysis was carried out in an iterative manner. The account given in the following section of the paper is therefore the result of an iterative process, which aimed to make productive linkages between the field data, a theoretical perspective and an accounting issue of interest (Ahrens, and Chapman 2006, p. 826-827; Silvermann 1993, p. 1-2). In March 2012, a written report was submitted to the key informants form the organization asking them to raise any problem or misunderstanding they had with it. No concern was raised.

With field studies, the findings are generalized on the basis of the theoretical concepts employed (Ahrens, and Chapman 2006). It is the theorisation of the socio-technical dynamics based on Callon’s theory of framing/overflowing that allows us to generalise the study’s findings. Collecting the data in a public sector organization was useful by offering a particularly visible example of the how the inner configuration of a cost system is complexly linked to wider social networks. The findings however are not theoretically confined to the public sector.
4. The socio-technical dynamics of the cost system in ASH

In this section, we first describe how the inner configuration of the cost system was a calculative frame produced by an actor network across time. Secondly, we describe how the ministry of housing and an external audit report initiated a problematisation of the established calculative frame, the cost system of ASH, by pointing to its lack of transparency. Thirdly, we examine how this problematisation shed light on an overflow, involving an argument of site planning and construction sub-units. Finally, we detail how this contestation of the established calculative frame, led to attempts of reframing, emphasising thereby the different positions among organisational actors and in particular accountants.

In the next section, we analyse the process of framing across time, under different management approaches characterized by public sector accounting standard, central state funding, and performance centered on providing social housing as a public good, and that recently evolved into the decreasing of central state funding, and increasing private sector thinking, manifested through new public management reform, private sector inspired management methods, private sector accounting standards, and financial performance targets.

4.1. The ASH cost system as outcome of framing

In this section, we introduce the research site and present the framing across the AHS actor network and its outcome the ASH cost system. We detail how this cost system has been produced over time, a public sector orientated one and a private orientated one.

ASH is a public social housing organization, created in 1920 and since then, its mission had been to build and rent social housing. By 2008, ASH had more than 300 employees and was organized in seven main units: Estates, Housing, Specific Housing, Finance, Human Resources, Marketing and Communication and Management Accounting (see the organization chart in appendix 2). The organization was managing more than 15000 dwellings and had total revenue of > 100 million €; a profit of > 4 million €; a cash flow of > 15 million € and >100 million € of equity. The same year, the external auditors’ report outlined the good financial performance of ASH for the period from 2001 to 2006. Indeed, over the period from 1993 to 2008, the profit had increased > 70 fold; the equity multiplied by 3; and the cash flow developed from a negative one of >-2 million € to a positive one of > 4 million €.

3 In order to keep the confidentiality of the organization a range of figures rather than the actual figures are indicated.
After the Second World War, social housing was a central government responsibility and the emphasis was put on the reconstruction effort and thus on the number of constructed dwellings in general in the social housing sector, leading the estate unit to play a central role in organisations of this sector. In 1985, the situation of social housing organizations in France changed. Local authorities (such as municipalities or local councils) were encouraged, by the central state, to engage in the social housing sector, and to be prepared to increase their funding. At this time, as many others in the social housing sector, ASH was spending more money than it earned from central state and local authority funding. The regional council, to which ASH was related, had to fill this gap with additional funding. In order to get rid of additional funding, the regional council appointed a CEO, whom we call in the following former CEO, in 1991. Coming from a private social housing competitor, his mission was to make ASH more profitable, while increasing the construction of dwellings.

Until 1993, ASH was a local public sector company hiring civil servants and a public sector bookkeeping. However, in November 1993, ASH changed its status and became a public organisation of site planning and construction with a change in its accounting regime. ASH adopted the social housing sector private sector accounting standards, and was no longer bound to comply with public sector accounting standards. The status change implied that ASH was not bound to hire under the civil servant status anymore but could hire private status employees. That same year, the former CEO, decided to extend ASH’s range of activities which had previously entailed only constructing and renting dwellings. Accordingly ASH started a new activity, the site planning. Extending its activities into site planning was supposed to improve the internal organization, and to support ASH coping with the requirements of an increasingly competitive environment (private social housing companies). In particular there was the expectation that site planning would provide planned building sites at a relatively low price to the construction sub-unit, i.e. lower in comparison to sites prepared by private sector companies. This would then allow ASH control over the full range of activities in the value chain.

From 1945 to 2000, policies giving prominence to the number of constructed dwellings, the construction activities, and the related site planning activities, became central in ASH, as well as in the social housing sector in general. These elements were embodied in ASH performance measurement system (PMS), as this system was solely focusing on number of constructed, in progress and planned dwellings. The whole company was managed regarding these indicators. The site planning sub-unit then gained importance in 1993, not only because it was considered as a pre-phase of construction, but as it was seen as a source of diversification and profit. Therefore, the number of sites planned and the profit made by site planning were included in the PMS.

* Names have been changed for the sake of confidentiality.
In 1997, facing increasing pressure on financial performance from the local authorities and the ministry of housing, combined with the extension of activity into site planning, the former CEO decided to introduce a decentralized approach to management. With this objective in mind, and inspired by his previous experience in a private social housing company, he organized activities around business units (including profits centers for the main activities), and asked the accountants to produce a cost system to help manage them. This cost system, inspired by private sector accounting methods, aimed at providing decision-makers with detailed and granular cost information per business unit. In line with that, the senior management accountant suggested to develop an Activity Based Costing (ABC) system. He considered that ABC would help to support both the decentralization and the financial objectives, by providing detailed costs. The creation of this cost system was supported by the implementation of specific software packages with the objective to improve the information flow. This included a management accounting software to handle the cost system (ABC) and the budget. Producing the inner configuration of the cost system was the responsibility of the management accountants. In parallel, the management accountants also redesigned the budget, which would be informed by the new cost system. At the same period, an organization based on business units was developed.

In 1997, other indicators were included to the PMS at the request of the former CEO. The vacant dwellings and unpaid rent became central, together with the dwelling production and the site planning that remained important. The company was decomposed in business units. Each major activity (site planning, construction, renting...) was considered as a profit center. As underlined by the new CEO appointed in 2008:

"During 17 years, the company was organized following an industrial model and the management focused mainly on the financial performance of production activities [i.e. site planning, construction, maintenance]" (CEO).

Since then, the main indicator used was the contribution to the cash flow of each unit. It is important to note that the company cash flow was a common economic indicator for local authorities and that political communication on the cash flow was important.

In the 2007, ASH had reached a high level of performance in terms of the key indicators mentioned above. The vacant dwelling percentage was around 0.5%, the unpaid rent was 0.5%, the number of dwelling > 15000. These figures reflected a high performance compared to other social housing companies. In addition, the site planning

"is not yet profitable, but surely will" (site planning manager).
Until 2007, the dashboard had been complemented with other indicators. This led to a 50 pages dashboard for the CEO, the units' heads, and sub-units' managers. These pages were detailing the vacant dwelling, the unpaid rent, the number of constructed dwelling, and the contribution to the cash flow of each sub-unit. Successive reports of external auditors outlined that ASH was a "good student" in terms of financial indicators and financial performance.

To sum up, although ASH official status remained a public organisation attached to the regional council, in the course of several public sector reforms the organisation transformed from a public sector organization to a more private oriented one. This also implied introducing private sector accounting standards and methods. In this context a new cost system had been implemented at ASH along with profit centers and performance indicators to introduce economic objectives at operational levels. The ASH cost system that had developed over the years had proved to work well, supporting ASH in its mission of social housing and contributing to good financial performance. While the ASH cost system was considered as working well, it was black boxed, with the inner configuration not being discussed.

4.2. The problematisation of the cost system

In this section, we will examine the problematisation of the cost system. We describe how the minister of social housing questioned well performing social housing organizations, and how the external auditors pointed to a lack of transparency in the management accounting system, underlining that this system remained unclear to the CFO, the CEO, the external auditor, and even to the management accountants.

In 2008, a new CEO, arrived at ASH, replacing the former CEO. That same year, the ministry of social housing started to question the operational and financial performance of social housing organizations in general. The minister of housing, Christine Boutin wanted to reform what she called the ‘dodus dormants’ (i.e. the sleeping plumps), referring to the social housing companies that were more concerned by making cash and increasing their equity than creating and managing social housing dwellings constructions. The earnings from the cash were kept by these companies to ensure a high level of treasury, hence the term of sleeping. The ministerial audit body and the statutory auditors started to look into the public social housing organization to find out whether their financial performance was obtained at the expenses of their actual mission of providing social housing dwellings. Regarding its good financial performance, particular attention was paid to ASH.
At the beginning of 2009, an external audit was carried out by the Social Housing Inter-ministerial Inspection Mission (SHIIM)\(^5\), a regulatory body under the joint authority of the Ministry for Housing and Ministry for the Economy. This regulatory body carried out routine checks on site to assess the management of these organizations. The audited period encompasses 4 years, from 2004 until 2008. The SHIIM report pointed to the lack of clear procedures and the lack of transparency concerning the management accounting process in ASH (see excerpts from the SHIIM Report: management accounting section; 2008, in appendix 3.

The report highlighted the complexity of the calculative formulas used (e.g. the very complex profit sharing scheme). Further it outlined that neither the CFO, nor the management accountants, were able to provide any clear answer to the questions raised. According to the CFO, these elements were also identified by the regional statutory auditors.

"They [the external auditors] kept on asking me details about the management accounting data and procedures, but I was not able to provide these elements. They already asked the management accounting director but he did not answer clearly and they were not very confortable with the idea of involving the CEO in this. In my opinion, they did not want to bother the CEO." (The CFO)

Besides, in line with recent French regulation\(^6\), the Social Housing Inter-ministerial Mission of Inspection also raised the lack of transparency of the management accounting system, and questioned the independency of the internal control due to the hierarchical relationship between the internal control and the CFO. The external auditors demanded ASH to provide an answer and to work through these elements for the next audit. This implied to produce clear and trustworthy procedures and to justify the independence of the internal control. In response to this demand of the external auditors, the CFO asked the management accountants for support. The management accounting was an autonomous unit before 2008 and became thereafter a sub-unit of the finance unit, under the responsibility of the CFO.

### 4.3. Overflowing of the cost system

The problematisation of performance and the lack of transparency put the focus on the management accounting system in particular the cost system. As response, an internal task force was created to

\(^5\) The SHIIM is a regulatory body under the joint authority of the Minister for Housing and Minister of Economy. Its activities consist in auditing public social housing organisations, to verify the compliance of their activities with the laws and regulations of the Code of Construction and Housing, produce by the ministry of social housing.

\(^6\) The "Loi de Sécurisation Financière" is the French adaptation of the SOX act.
clarify the management accounting system including the cost system. Their mission was to open the black box of the cost system. This task force identified and documented the inner configuration of the cost system. The discussions between the members of the task force shed light on an old battle between the construction and site planning sub-units, and how the cost system was related to it. It also brought to light how the inner configuration of the cost system impacted AHS activities and financial performance.

In 2009, the CEO validated the clarification and documentation process. Aware of the limited access of the CFO to the management accounting information, the CEO asked the CFO to build a task force in charge of clarifying the architecture and functioning of the management accounting system. This task force, which was accountable to him, was composed of the two management accountants, the CFO, 10 accountants, the treasurer and the manager of unpaid rents and exploitation costs. A major difficulty the task force had to face was the lack of existing detailed documentation concerning the inner configuration of the management accounting system. Therefore, the task force’s mission was to describe and to document the inner configuration of the management accounting system and its mechanisms.

The management accounting system together with the financial accounting formed the accounting system. The management accounting systems included the cost system and the budget system. As previously mentioned, the cost accounting relied on an ABC model developed in 1997. Following the ABC method, activities had been identified and cost pools and cost drivers had been created. The cost object in ASH was the program (i.e. a set of dwellings, such as a residence or a group of residences, or a group of dwellings). The cost system was organised in a way that the different sub-units were considered as activities, which could then be attributed to the programs of constructions. To allocate the overhead costs, the management accountants had created 33 activity cost pools with corresponding cost drivers. Each of the drivers was based on complex calculations.

For instance, according to management accountant 1, he spent three weeks each year to calculate two of the overhead cost drivers. When the CFO asked for a detailed description of how overhead costs were actually assigned to the business units, the two management accountants were unable to provide any clear explanation:

- "Management accountant 1: It is a very complex process involving many different drivers and costs pools. We cannot just draw it on a black board.
- Management accountant 2: I was not in charge of that, I just added a certain calculation each year. It is like I a looked out of my window, but I did not have access to the whole landscape. The person who really knows about this has left [the management accounting director].
CFO: Could you just try to write what you know about it?
Management accountant 1: We will try.

Management accountant 1, who was in charge of the overhead costs, provided a very detailed table describing the cost allocation mechanism on November 11th, 2009. According to the CFO, this table was not very clear. Indeed, the table included 48 drivers named with acronyms, without any clear definition and any calculation method. This lack of transparency of the cost system had been pointed out by the auditors' report. In a subsequent meeting, when trying to understand the complex cost allocation mechanism, the CFO pointed to a certain element of the inner configuration of the cost system. The salaries of the whole organisation were gathered in a single cost pool and then allocated with a single driver. This element had already been underlined by the CFO during a previous meeting.

"This is very peculiar. In Domus [i.e. the private competitor where she worked just before ASH], wages were allocated in each sub-units' budgets, as is usual done in the private sector (...) [breaking this budget down by sub-unit would be] relevant for each sub-unit manager. This will allow them to understand that neither employees nor working time are free, and this will maybe make them stop to constantly ask for more staff" (CFO, budget formal meeting).

The direct labour costs that were centralized in a single cost pool, were then the object of the complex allocation mechanism mentioned above. The direct labour costs were allocated to profit centers on the basis of a specific cost pool and cost driver. Direct labour cost was here treated as overhead costs.

In the subsequent discussions it emerged that this specific element of the inner configuration of the cost system, i.e. centralizing labour costs on a single account, contributed to a long lasting conflict between two ASH sub-units, i.e. the site planning and construction sub-units. The site planning sub-unit was performing activities that aimed at preparing packages of land for future construction. It performed activities for either ASH, or for external clients such as social housing organizations, local authorities, or private building companies. The selling price of the activities was either the market price for external customers, or, a lower internal price, based on a full costing, in the case of the internal clients (i.e. the construction sub-unit). The site planning activity had been criticized by local authorities, who questioned the legitimacy of a public sector social housing organization engaging in site planning

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7 Social Housing Inter-ministerial Inspection Mission (SHIIM), a regulatory body under the joint authority of the Minister for Housing and Minister for the Economy.
activities. They argued that ASH was not able to be profitable in such an activity, and should therefore entrust it to specialized contractors. The former CEO had introduced financial performance measures, in particular the contribution of each profit center to the cash flow (CCF), not only for global financial performance improvement, but more specifically to demonstrate that ASH site planning was profitable.

While the site planning performed well in terms of cash flow, there seemed to be a problem with the quality of the internal deliveries to the construction sub-unit. Indeed, the construction sub-unit had to redo some of the site planning activities on the site delivered. The CFO explained:

"It's been a long time that it exists and I did not need complex calculations to tell you that this creates a significant cost to do the same thing twice"(...) "I remember one site, where the widths of the streets were neither designed to accommodate buses nor a bus stop was planned. Once delivered, the construction had to redo some of the streets located on the path of the bus" (CFO)

Due to the problems with quality of internal delivery, the relations between the site planning manager and the construction manager were tense. The construction manager argued that the properties delivered by the site planning were a "source of recurring problems for many years" (Construction manager). While the construction manager was complaining about it, the site planning manager seemed not to be concerned. Instead the site planning manager's primary concern appeared to be making the site planning profitable:

"The externally sold sites are more profitable than the one for internal construction... the lack of staff in my sub-unit does accentuate this phenomenon ... The staff I have does not allow ensuring the planning of all sites in a satisfactory manner. That is why I ask my site managers to focus on the externally sold sites" (Site planning manager).

The quality of externally sold sites was given great importance, while the quality for internally delivered sites was neglected. As the main performance measure for the sub-units was their contribution to the cash flow, the focus of the business unit managers was on activities that would generate a higher cash flow. While facing increased levels of work, the site planning manager had deliberately chosen to privilege work for external customers, and to rush work for internal ones. When questioned about this, the CFO argued that this was not simply an issue of transfer pricing:

“The actual problem is that these managers are not responsible for the costs of their sub-unit. They always ask for more staff, they believe that staff is for free”. (CFO)
Indeed, the site planning manager had complained about the lack of sufficient staff to carry out the site planning activities. Yet at the same time, the labor costs across the observed period had increased by 30%, being above the sector’s average.

These issues were evoked in one of the task force meeting:

“Site Planning: It would be interesting to distinguish between planning activities performed by the site planning and those made by the construction sub-unit; and to estimate their costs in order to quantify and monitor an element identified during work of the process [the fact that the planning was redone by the construction]” (Extract from the minutes of the task force meeting)

During this meeting, the importance of this conflict and its economic impact was discussed. It emerged that the task force members had different positions. On the one hand, the two management accountants, and the manager of unpaid rents and exploitation costs supported the idea that the economic impact was trivial and that the argument between the site planning and the construction had to do with a personal issue between their respective managers. Indeed, it appears during many meetings that the relationship between the site planning manager and the construction manager were conflicting. On the other hand, the financial accountants, the treasurer, and the CFO argued that the economic impact of this problem was important and that the argument between the two managers was caused by that. According to the CFO, this conflict around the two sub-units and the related practices contributed to the deterioration of ASHs’ results in the same period. The statutory auditor report (2011 see appendix 4) showed that, the result (before tax and extraordinary items) was > 4 Mio € in 2007, >2.5 Mio € in 2008 and > 2 Mio € in 2009; i.e. a decrease of more than 50%. The same report outlined an increase in labor costs across the observed period. The salary costs per dwelling rented were 25% higher than the sector median (see Appendix 4). The CFO argued that ASH had been able to maintain a positive overall result, only due to exceptional items. She explained that compensating cuts in other areas were done, for example in the maintenance of existing dwellings. Between 1993 to 2008, the global maintenance of the dwellings had decreased a lot. According to her,

“this could be problematic not only because of the increasing number of dwellings, but also because of the age of these buildings which have an average of 30 years old in 2008” (CFO).

The problematisation of the framing of well performing social housing organizations and the cost system shed light on an overflow. The inner configuration of the cost system contributed to a conflict between the site planning and building sub-unit. The inner configuration caused directly unintended
effects such as raising labour costs across the organization, the negligence of quality of internal deliveries of the site planning sub-unit and the overall negligence of maintenance of existing dwellings.

4.4. Attempts to reframe the cost system

In the course of the task force meetings, the inner configuration of the cost system was documented and discussed. Discussions resulted in certain changes to the inner configuration of the cost system. For example, the audit report had requested to extend the time period for amortization of buildings from 35 to 40 years. The task force members agreed with this recommendation and changed the amortization period accordingly. Further the audit report had pointed out that the present cost system did not account for the costs of outside spaces (e.g. gardens). In response to this issue, the task force decided to allocate the costs of outside spaces from now on to profit centers. It was decided to distinguish design costs of outside space from maintenance costs of outside space and to allocate the first to construction activities and the second to rental activities.

However, the issue concerning the centralization of labor costs led to lengthy discussions. During one task force meeting, the two management accountants argued that labour costs had been centralized since they had been in the organisation. Such centralization appeared to be usual in public sector social housing organisations complying with private sector accounting standards. Nonetheless, in ASH, management accountants reported that they had tried once to attribute labor costs to profit centers:

"Once, we tried to split them internally, but we finally gathered them back because we had too much detail that no one used." (Management accountant 1)

They also outlined the lack of reliable sources of information. Management accountant 1 explained that the labor costs per business unit were not very useful because they were based on a declarative repartition of employees by position. According to him, this declarative repartition was problematic, because it was too difficult to keep correct and updated information in the central database. Further management accountant 1 argued that it was common for employees to work for more than one

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8 We conducted additional interviews with the CFO of two others social housing companies. Both companies have a budget that centralises the labour costs in a single account. Further, one of the CFOs explained that “this is very easier than splitting it into sub-units budget, as we have many labour statuses to handle” (2012-08-16).
business unit, and employees’ position changed over time. As explained by the human resource manager:

"Many employees work on different positions during his working time. He could be 1/3 time in site planning and 2/3 in construction. One position may be occupied by different employees, with contract under different status [i.e. public, private, temporary…]". (Human resource manager)

Thus, from the management accountants’ point of view, keeping a correct repartition would be too demanding, and using the available one would be misleading. During this meeting, the CFO suggested that one of the problems induced by the centralization of labour costs was that managers had no visibility of the costs of their staff. After reviewing this element and the lack of responsibility implied, the task force members suggested the following:

"Currently, in budgetary terms, the wages are centralized and assigned to the human resource unit. For the sake of confidentiality, it seems difficult to break down the wage costs by sub-units within the budget accounts. However, it is possible to indicate to each responsible the global payroll of the sub-unit he manages, highlighting then the labour costs. This provides another indicator allowing controlling these costs over several years" (Minutes from a task force meeting)

It is important to note that the existing budget documentation was based on the budget nomenclature for the public sector bookkeeping standard in social housing (French Ministry of Housing and City, 2008), a legacy of the time when ASH was complying with public sector accounting standards. In this document, the ministry of housing defined the nomenclature of the budget, in which wages were centralized in one single budget called the human resource (HR) budget. Until 2004, ASH had exclusively employed civil servants and the human resources consisted of managing the civil servant status. Centralizing labour costs in a single HR budget fitted to the period when ASH was hiring solely civil servants and had to comply with the public sector bookkeeping standards. In public sector organisations, salaries were often not considered as staff cost, but as structure costs, because civil servants were not managed by the organisations, but administrated by state authorities. However, since 1994, ASH was not anymore under public sector bookkeeping standards, the human resource manager had to deal with two statuses: the civil servants one and the private one. Moreover, the human resource manager had to take into account rules stated by the former CEO between 1994 and
2008. In order to "to respect the fairness and solidarity", the former CEO had stated new internal rules of wage management:

"They always invent new rules. They suggest wages increase; I mean our CEO suggested that, when the minimum wage increases, the employees who earn until 20% up to this minimum will see their wages increase of a proportion of their wages compared to the minimum wage". (HR manager)

This centralization of labour costs in a separate budget was coherent with the public sector practices and then never questioned neither by the HR managers nor by the management accountants. For them and many employees of financial and HR units, it appeared “usual”. Indeed, the human resource manager had spent his entire career and training in the public sector. She notably worked for a long period in the regional authority. The HR employees, the two management accountants and most financial accountants had been also trained in the public sector and most of them had spent their entire career in ASH.

Another reason they cited in favor of centralizing labor costs was confidentiality. The CFO asked them in a specifically organized meeting to discuss this element of the inner configuration of the cost system:

- CFO: Would it be feasible to detail the labor costs per business units, and sub-units?
- Management accountant 1: I am not against…but there are clearly some confidentiality issues raising here. Such breakdown means that each manager will know the salary of his colleagues and this is clearly problematic.
- CFO: Why is this so problematic?
- Management accountant 1: The labor costs are confidential and such information would certainly create tensions and conflicts.
- Management accountant 2: We have always been doing things this way. I can't hardly see the importance of that (these changes) for us. As far as the managers don't decide for their staff, they don't have to know this information.
- CFO: The idea is to make the managers aware of these costs, as they are using them. They should be aware of how much this costs… that would maybe prevent them from constantly asking for more staff and maybe encourage them to manage their staff.
- Management accountant 2: But this has no impact… they don't decide about the staff, how can this have an impact on them?
Management accountant 1: Anyway, there are more important things to discuss here, such as the global costs of a construction (sic), we will discuss this in due course – (Task force meeting).

This excerpt shows that the management accountants wanted to maintain the existing practice of centralizing all labor costs in a single human resource account and treating them as overhead costs. The excerpt also shows that in the view of the management accountants the labour costs per profit center were not necessary information for an economic analysis of ASH. The management accountants considered this issue as their preserve and they judged that this change would entail too many modifications, which would be too difficult to handle and would bring little actual benefit.

A report of the task force addressed to the CEO, provided the main results of its work. This report documented the management accounting systems and suggested many related changes (for instance, the amortization period used for the programme cost calculation; the repartition of outside space staff). By the end of 2011, some of these changes had been done (such as amortization length, outsides spaces costs calculation). However, accounting for direct labour costs at profit center level, even if it was validated by the CEO, had not been done. The estate director was a central actor of the maintenance of this centralisation:

“(…) I ask myself why there is so much noise on this (centralisation of labour costs). There are more important things than knowing exactly who has worked for whom up to the last dime… in my teams we seriously lack operation leaders and I do not need to carry out a calculation to tell you that we have not enough staff”. (Estate manager)

In meetings, he put the emphasis on the importance of the construction mission of ASH and on the centrality of the site planning activity in this mission. He explained in an executive committee:

“If we cannot perform site planning anymore, it will be very difficult to find proper sites and to find them at a low price. We would be at the mercy of the other site planners and they would not make us a favor. We must do all we can to keep the site planning activity amongst our services. It is the nerve of the war (key)” (Estate director)

Another manager who argued in favor of maintaining the centralisation of labor costs was the site planning manager. She explained that in her department, they were six employees and some of them were actually working for other sub-units at the same time:
“In fact it is really a transversal sub-unit as they are not working only for me but also for many other sub-units” (site planning manager interview).

Hence, in her view accounting for labor costs at sub-unit level did not make sense:

“I can tell you that I know exactly what each of my workers does. Then, if somebody tells me that one of them is attributed to 80% to my sub-unit when he is actually working 50% of his time for me, I say no thank you. Work tasks evolve so quickly that it would be a waste of time. And it is not like if we were under-employed …” (Site planning manager, budget meeting)

After the observation period, when we questioned the CFO about the fact that the change had not been initiated, she explained:

"...it is cultural; they [the two management accountants] were reluctant to this change because they are used to do this in a certain way linked to the strong internal culture. I believe that they don't really understand the ins and outs of such change. Besides, it [keeping existing practices] suits everyone, particularly the executive committee [composed of heads of units]. I think that most of them are not very happy about such breakdown and the related transparency of labour costs.” (CFO)

The CFO influenced by the cost system produced in the private sector network was in favour of reframing this element of the inner configuration of the cost system. These differences underline an intra-accounting variation concerning the inner configuration of the cost system. The changes that were performed to the inner configuration of the cost system did not threaten the established system of thought in AHS. The change of the inner configuration that would alter the established ASH system of thought was not performed. By maintaining the centralization of labor costs in the inner configuration of the cost system, the established ASH system of thought was maintained.

In summary, our analysis suggests that the inner configuration of the cost system in AHS was not only produced on the basis of a specific economic model of profit maximisation, but rather it was produced by a network of actors pursuing different interests and having different views on economic performance. Produced across time, under a public and a private management approaches, the cost system contained elements of both. External actors, i.e. the ministry of housing and an audit report, initiated the problematisation of this cost system. Elements of its inner configuration were linked with an overflow and were contested (e.g. the amortization period, the centralization of labor costs) by concerned actors. Reframing of certain elements of the cost system took place. However,
reframing related to labor cost treatment was prevented by the strength of diverse ties tying together many heterogeneous elements, i.e. the estate director, the site planning manager, the management accountants, the public accounting regulation etc. Further, the actor contesting the centralization of labor costs, i.e. the construction unit, was compensated with changes to another element of the inner configuration of the cost system, i.e. extension of the amortization period.

5. Discussion, implications, limitations and future research

This study has examined the socio-technical dynamics of the inner configuration of a cost system in a social housing organisation. The paper was informed by actor network theory, which provides a set of concepts that we used to better understand how actors of a network produce a cost system. In particular, this paper provides insights on the ways in which the inner configuration of the cost system was produced by different actors, across time, and how the resulting calculative frame influenced organisational actors’ behaviour.

This paper has three main contributions. We detail how the cost system, as a calculative frame, developed over time. Our findings put the emphasis on the fact that the cost system is the outcome of a temporal sociological framing, contrasting with the economic tradition. We further detail how specific elements of the inner configuration of the cost system, such as the treatment of direct labor costs, became linked to calculative frames which impacted organisational actors’ perceptions of organisational situations and decisions over time. We thereby complement psychological based research by “explicating more carefully the mechanisms by which frames are invoked” (Lipe, 1993, p.762).

The findings also provide evidence that the dominant framing was stable over time, even when the network of actors (including some details of the inner configuration of the cost system) shifted. Specifically the findings detail how the cost system in ASH was produced across time under different management approaches (e.g. public and private oriented), highlighting that the inner configuration of the cost system embodied both private and public management elements, mediating different views and interests within the actor network. The shift in the actor network led to a problematisation of the cost system. However, strong ties within this system between the site planning manager, the management accountants, and the public sector regulations, prevented some elements contested by this problematisation to be reframed, despite the ties supporting them (formed by the construction manager, the CFO and private sector management approach). Changes of the inner configuration of the cost system were driven by different notions of economics, and hence, of true costs (Labro, and
Vanhoucke 2007; Cardinaels, and Labro 2008; Datar, and Gupta 1994; Christensen, and Demski 1995), that were held by the different actors of the network (Briers, and Chua 2001). We observed that while some elements of the cost system were changed (e.g. amortizations period), the labor cost treatment did not change. Indeed, the suggestion of the CFO regarding the labor costs was not taken into account. This could be due to the fact that these suggestions did not fit the dominant framing in ASH. Furthermore, the construction sub-unit contesting this element accepted its maintenance, as it was compensated with another element of the inner configuration of the cost system, i.e. the extension of the amortization period. Reframing of the labor cost treatment was prevented with this compensation, stabilizing thereby the calculative frame (Briers, and Chua 2001; Chua 1995). We therefore complement previous accounting studies (Briers, and Chua 2001; Chua 1995), by showing how the cost system mediated different interests through specific elements of its inner configuration.

In line with Briers, and Chua (2001), the present study emphasizes how a calculative frame was produced by a network of actors, and thereby mediated and stabilised their interests. Briers et al. (2001) analyzed how ABC as a calculative frame was initially implemented. We complement their study by analyzing how a cost system, implemented many years before, was problematized, contributing to an overflow and how actors attempted to reframe it.

Moreover, our study provides evidence on intra-accounting variation, complementing previous research emphasizing the variation of perception between accountants and other professionals (Kurunmäki 2004; Eldenburg, Soderstrom et al. 2010; Dent 1991; Ezzamel, Lilley et al. 2004). We found that management accountants and the CFO had different perceptions of the situation concerning the site planning and construction argument and treatment of labor costs. While management accountants perceived the centralization of labor costs as normal, and attributed the argument between the sub-units to personal and team issues, the CFO wanted to account for labor costs at profit centre level and stated that the labor costs treatment was at core of the argument between the two sub-units. This suggests that management accountants and CFO referred to different framings, which provided different meanings to organisational situations. The CFO was referring to a calculative frame produced in a different network, i.e. the cost system produced in the private sector competitor where she worked for many years. We contribute to the ANT literature by showing that the passage from one network to another, is not as simple and as immediate as one can consider. Actors may not switch from one calculative frame to another; in fact there may be a framing persistence. This constitutes the third contribution of the paper.

The research has several implications. In terms of the accountants’ knowledge it is important to raise their awareness that their knowledge is linked to particular a framing, in the sense of a system of
thought. Raising the awareness that accounting systems are not just an economic representation of the organization, but that actors of the network such as policies, politics, power and negotiations, also influence it, should be part of any general accounting training. We therefore suggest that firms need to consider the ways in which the inner configuration of cost systems is developed, understood and evaluated in relation to the wider network of actors. Due to the absence of standards in the field of cost systems, there is little formal support for producing the inner configuration of cost systems. This lack of formal support underscores the importance of developing and maintaining detailed documentation of the nature and rationale behind the inner configuration of cost systems, enabling the actors then to reflect on elements of the inner configuration. This study also points to the fundamental erosion of the control management accountants have over their own jurisdiction domain. The fragmentation and expansion of this domain makes it highly challenging for management accountants to keep pace with practice developments (Suddaby, Gendron et al. 2009).

Although this study was limited to a single case, the high degree of access gave the researchers the possibility to gain a rich understanding of how technical cost system choices were made by accountants drawing on a frame produced by a heterogeneous network of actors. The fact that the study relates to a French public sector social housing organization might suggest a high degree of specificity to the results. Adopting a theoretical mode of generalization means that we relate our field specifics to similar observations made in multiple countries and sectors. The general characteristic is here the socio-technical dynamics influencing the inner configuration of cost systems. While the treatment of labour costs is not specific to ASH, as it is common practice in other social housing organisations, it would be interesting to explore whether such specific accounting and cost system elements, which are linked to organisations public sector past, are present in other countries and other reformed public sectors such as for example healthcare.

This research suggests other avenues for future studies. Building on the sociological framing literature, this study suggests that the actor network influenced the inner configuration of the cost system. This may play a role in the fact that despite the potentials of certain cost systems suggested by academics and management accountants, most firms have a limited benefit of them or choose not to implement them (Gosselin 2006). While this paradox may be due to resistance to change, this research also points towards the fact that other actors such as past regulations and existing accounting practice may interfere with a certain inner configuration of cost systems. Finally, this paper described how the inner configuration of a cost system of a social housing organization was the outcome of framing across time. Further work could analyse the inner configuration of calculative frames, in particular cost systems, in other contexts, to contribute to both theory and practice.
References


Appendix 1: Details of field work (from 2008 to 2011)

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<td>Total formal meetings attended</td>
<td>98+ (8 preparation phase)</td>
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<td>2009</td>
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<td>2010</td>
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* related with the management accounting system

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Appendix 2: Organization chart in 2008
Appendix 3: Notes taken from the SHIIM report 2008

English translation

“The departure of the management accounting director in 2008 did not leave enough elements for a potentially continuing this work. Given the departure of the CEO with whom he worked, without allowing any transversal flow information, the issues raised by the SHIIM in this area have not found sufficient answers. This precludes in particular a retroactive analysis: rationale for cost allocation of the rate of internal costs for fixed assets (...) analysis of margin per activity (for comparison with regulatory table and allocation of financial account expenses and product), reconciliation of the assumptions of the forecast simulations made previously, with the finance unit data (...). This dysfunction, identified by the new management in early 2009 led to the merger of management accounting (and the prospective study) with the financial accounting units. This position, however, places the chief financial officer as "judge and judged".

"Financial and management analysis produced as part of the annual activity report and of the budget can be improved: critical discussion of performances and evolutions, analysis by activity, prospective studies. The analysis of performance needs, beyond the standard information provided by the internal audit, a better display of specific elements of the financial situation. The budget presentation and generally the consistency and the homogeneity of financial information must improve. Thus, the scope of expenditures for personnel costs varies significantly in different documents (income statement, balance webmail management, budget, analytical ratios, and predictive simulations). The 2009 budget shows a 6.2% increase in labor costs and a 1.8% increase of other overhead costs (fees, advertising, ...), which is not clear from the synthesis made in the introductory note: "the operating costs increase of 3.2% in correlation with the increase in labor costs, which weigh more than three quarters in this section." (Excerpts of the SHIIM Report: management accounting section; 2008).
Appendix 4: Excerpts from the statutory auditors reports (2011)

Original French text
"Au 31 décembre 2009, les frais de personnel représentent finalement 730 € par logement pour une médiane qui s’établit à 573 €. Vous considérez toutefois que les charges de personnel doivent être mises en relation avec la diversification des activités de l’office, en l’occurrence les opérations d’aménagement, la gestion de copropriétés, la gestion pour le compte de tiers ou, encore, la gestion des aires d’accueil des gens du voyage. Vous ajoutez en conséquence que les coûts nets de structure, constitués des charges de personnel ajoutées aux autres dépenses d’exploitation et rapportées aux produits d’exploitation, s’établissent à 831 € par logement à la clôture de l’exercice 2009 pour un niveau médian se situant à l’échelon national à 837 € par logement…Dans ce contexte, une attention particulière doit ainsi être accordée aux charges d’exploitation.” (Rapport du 27 octobre 2011).

English translation
"In December 31, 2009, salary costs represent finally 730 € per accommodation for a national sector median at 573 €. However, you have to consider that the personnel costs must be related with the diversification of activities of the organization, namely the site planning, management of condominium, management for third parties or, the management of halting sites for travelers. (...) .The net cost, made up of personnel costs added to the other operating expenses and the reported operating revenues, totaled 831 € per unit at end of fiscal year 2009 to a median level that was located at the national level to 837 € per dwelling (...). In this context, particular attention must therefore be paid to the operating expenses" (Statutory auditors' report: 11/27/2011).
Appendix 5: Excerpts from the minute of the task force meeting (03/23/2009)

Original French text

1. Quelle information peut-on diffuser :
- La masse salariale en euros et l'effectif ETP (équivalent temps plein).
- Ratio/ effectif global
- Référence historique pour évolution (3 ans) : évolution de ses propres RH
- Possibilité de fournir un détail ponctuel sur demande du directeur notamment en cas de simulation budgétaire

2. Comment récupérer l'information : elle est disponible budgétairement par directions et par services dans BO.

3. Quel reporting :
- Demander aux directions leur répartition et variations par services (ce n'est pas le cas par service).
- Format standard à diffuser trimestriellement pour le reporting.

4. Comment transmettre l'information : 
Via un tableau de bord adapté par direction ou plus tard par service.
- Par direction : faisable à aujourd'hui
- Par service : les informations ne sont encore pas pertinentes et cela demanderait des mises à jour.
- Fréquence : trimestriellement.

5. Précautions :
- Pour prévenir la mauvaise interprétation, conserver un niveau de détail suffisamment élevé pour ne pas menacer la confidentialité.
- Pour l'instant, ne pas officiellement intégré au budget (Fichier excel).
Ps: le salaire chargé par salarié est un document qui est utilisé notamment pour le calcul des formations mais ne semble pas pertinent économiquement actuellement [ce post scriptum a été ajouté à la demande des contrôleurs de gestion].

English translation

1. Which information can we distribute?
- The full costs of employees and the Full-time equivalent
- Ratio/ total number of employees
- Historical evolution (over three years): evolution of the own HR.
- Possibility to provide punctual detail/ad hoc reports at the demand of the director in particular in case of budget simulations

2. How to get the information: is it available per directorate or per sub-units in BO (Business Object).

3. Which reporting?
- Ask the directories the repartition and variation per sub-unit (it is not the case per sub-unit).
- Format of the standard that should be distributed per trimester for the reporting.

4. How to distribute the information:
With a dashboard adapted to each directory, possibly later per sub-unit.
- Per directory: doable today
- Per sub-unit: the information is not yet pertinent and this requires updates.
- Frequency: trimester.

5. Precaution:
- In order to prevent bad interpretations, conserve a level of detail which is high enough not to threaten confidentiality.
- For the moment, do not integrate officially in the budget (excel File).
Ps: the salary per employee is a document which is used for continuous training, but it does not seem pertinent at the moment for economic analysis [this "p.s." has been added by the management accountants].