



Management Accounting Practices and efficiency in a Colombian Multi-Utility Conglomerate

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Abstract

Purpose – The purpose of this paper is to examine how a state owned Colombian multi-utility conglomerate has used management accounting practices to shape efficiency. We bring out the interplay between structures and agency in the process of shaping efficiency, which has enabled the company to operate as a private enterprise, taking advantage of NPM-led reforms and management accounting technologies.

Design/methodology/approach - This is an interpretative case study of a Colombian multi-utility conglomerate. Data for the study are derived from interviews, non-participative observations and document analysis. Giddens' structuration theory provides the theoretical approach for the study.

Findings: Results show that management accounting practices have shaped efficiency in a Colombian multi-utility conglomerate, promoting the profitability criteria prevailing in private enterprises. Theoretically, the paper shows how structure and agency are embedded in shaping efficiency in an emerging economy context through management accounting practices. It does this by analysing both the broader influence of the School of Mines and multilateral development banks and the micro-situated practices of employees at the Colombian multi-utility conglomerate. The employees who have worked in the company for long periods of time have transformed the profitability criteria into a corporate value that influences their day-to-day practices.

Originality/value – The paper adds to the literature that draws on structuration theory by illustrating a paradigmatic case in which agents have brought in knowledge and values to a state-owned company, and changed its ethos and practices whilst remaining under state control.

Keywords: Management accounting practices, efficiency, NPM reforms and state-owned enterprises

Paper type: Case study

Introduction

This paper investigates the role of management accounting practices (MAPs) in shaping the notion of ‘efficiency’ in one Colombian Multi-utility Conglomerate (CMC)[1]. CMC has incorporated several MAPs, including accrual accounting, since its establishment in the 1950s. This is three decades before such practices were recognised as an innovation, even in the context of Western countries with the implementation of New Public Management (NPM) reforms (Hood, 1995). With the change in development discourses of international organisations during the 1980s (Hopper, Tsamenyi, Uddin, & Wickramasinghe, 2009; Jayasinghe & Uddin, 2019; Van Helden & Uddin, 2016), market-led NPM reforms swept across Latin American countries, and Colombia was no exception. The scaling back of the state was the key reform agenda. This triggered a momentum towards the privatisation of state-owned enterprises in the region, as was the case in other emerging economies (Uddin & Hopper, 2001, 2003; Uddin & Tsamenyi, 2005). Privatisation was accompanied by the dissemination of several accounting-related technologies. These included longer-term and result-oriented budgeting, performance reporting and accrual accounting, the adoption of which were considered vital for achieving its propagated goals, i.e. attracting foreign investments, reducing corruption and protecting the interests of the poor (Rahaman, Everett, & Neu, 2007).

Unlike many other public enterprises, CMC took advantage of NPM movements, at least at the organisational level. For instance, the market-led regulations enacted by the government to promote competition and improve service delivery, have enabled CMC to expand its operation both inside and outside Colombia and function as a large public conglomerate with the characteristics of a private enterprise. Despite being a public entity, the operating structure, mind-set and agency of the managers and staff members within CMC have been shaped by market-principles from the beginning. A large number of executives and managers in CMC obtained education and training in the School of Mines[2] where achieving ‘efficiency’ was central to the courses offered to them (Aristizábal, Arias, & Tobón, 1988; González, 2014; Varela, 2011). With the ascendancy of NPM reforms, the notion of ‘efficiency’ has been brought to the fore of corporate values

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3 within CMC, and several NPM-advocated accounting technologies are embedded in the
4 organisational structure to engender efficiency in day-to-day operations.
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7 Using structuration theory (Giddens, 1984, 1993), our aim in this paper is not to
8 evaluate the efficiency of the firm itself but to delineate the interplay between social
9 structures and agency in CMC and the manner in which this interplay has led to the
10 reproduction of the notion of efficiency in everyday practice. The relevance of structuration
11 theory (ST) in the academic field of management accounting is well established (Englund,
12 Gerdin, & Burns, 2011; Macintosh & Scapens, 1990; Roberts & Scapens, 1985). The
13 theory has also been applied to illuminate the process of management accounting and
14 accountability changes in utility companies. For instance, Conrad (2005) analyses how
15 accounting and accountability systems facilitated the privatisation of British Gas,
16 transforming the culture of public services through market-based rules and competition.
17 Similarly, De Araújo and Cullen (2012) studied management accounting changes in a
18 privatised electricity distribution company in Brazil. The study demonstrates how the
19 budget system and the application of management accounting information changed in the
20 company in the aftermath of the privatisation, to measure performance and support rational
21 decision-making. The use of ST to explain how the idea of efficiency is constructed
22 through the application of management accounting is one of our contributions in this study.
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35 The remainder of the paper is structured as follows: section two summarises the main
36 ideas of structuration theory and highlights some of the key contributions of this theory to
37 accounting studies. This is followed by the method section. In section four, we present our
38 empirical findings, demonstrating the relationship between management accounting
39 practices (MAPs) and efficiency, as well as the reproduction of efficiency in CMC over the
40 period. We have framed these developments in MAPs and the reproduction of efficiency,
41 through the lens of structuration theory. The final section draws our discussion, some
42 concluding remarks and outlines areas for future research.
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51 **Giddens and Management Accounting Practices**

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3 In formulating structuration theory (ST), Giddens (1984) abstractly conceptualises
4 structures as “the structuring properties allowing the ‘binding’ of time-space in social
5 systems, the properties which make it possible for discernibly similar social practices to
6 exist across varying spans of time and space and which lend them ‘systemic’ form” (p.17).
7 For Giddens (1984), structures are not located in a specific space and time. They are rules
8 and resources that are reproduced by human beings through their social practices and guide
9 social action. Structures include two regulatory aspects: normative elements and codes of
10 signification; and two types of resources: authoritative and allocative. Rules and resources
11 are recursively involved in the facilitation of social institutions.
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19 Giddens (1984, cited in Barrios and Rivera, 2011) defines an ‘agent’ as a human
20 being who can act otherwise, and who is capable of intervening or abstaining to make a
21 difference in the world. In ST, agency is a synonym of action and human beings can
22 exercise some sort of power through their social practices. Agents’ capabilities of
23 exercising power may be enabled or constrained depending on their access to the material
24 and non-material resources essential to achieve the desirable outcomes. Central to ST lies
25 the notion of dialectic of control, which implies that social actors possess some degree of
26 power to exercise control over resources, although resources may be controlled by a few in
27 some contexts, given that the agents are conditioned (but not determined) by the social
28 structures.
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37 To explain further how society is constituted, Giddens (1984, cited in Barrios and
38 Rivera, 2011) proposed a framework consisting of three dimensions of structuration:
39 signification, domination and legitimation. The first level refers to structures abstractly
40 conceptualised as the rules of meanings (signification), sanctions (legitimation) and
41 authoritative and allocative resources (control over material and non-material phenomena),
42 connected to the structure of domination. The next level contains the ‘modalities of
43 structuration’, which refer to interpretative schemes that include: meaning in the structure
44 of signification; norms in the structure of legitimation; and resource mobilisation within
45 the structures of domination. Finally, the level of ‘interactions’ refers to: the interactions of
46 communication at the level of signification; sanctions connected to the structures of
47 legitimation; and power in relation to the dimension of domination (Giddens, 1984, cited in
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3 Barrios and Rivera, 2011). In this way, structure, modality and interaction are three forms
4 of institutions usually applied when synthesising ST.
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7 In 1985, Roberts and Scapens published a seminal work, in which ST was applied
8 to propose a distinction between accounting systems as an abstract set of rules and
9 resources used by individuals in their social interactions, and accountability systems as sets
10 of institutionalised practices which would represent the actual use of accounting systems.
11 This seminal work has inspired the ascendancy of the extant structuration-based
12 accounting literature (see e.g., Macintosh and Scapens (1990); Scapens and Macintosh
13 (1996); Lawrence, Alam, Northcott, and Lowe (1997); Burns and Scapens (2000); Uddin
14 and Tsamenyi (2005); Conrad (2005); Scapens (2006); Fay, Introna, and Puyou (2010);
15 Englund et al. (2011); Roberts (2014). It is evident in the reviews by A. F. Coad and
16 Herbert (2009); A. Coad, Jack, and Kholeif (2015) and Englund et al. (2011) that ST
17 increasingly offers scholars a robust means of studying management accounting in an
18 operational context.
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29 In particular, a key focus of ST-based accounting studies has been on unfolding how
30 MAPs are implicated in stabilising organisational processes and in communicating shared
31 knowledge about how to act, the relevant values and the appropriate way of expressing
32 thoughts in the organisational context (Burns & Scapens, 2000; Busco, 2009; Busco,
33 Riccaboni, & Scapens, 2000; Busco, Riccaboni, & Scapens, 2006; Carmona, Ezzamel, &
34 Gutiérrez, 2002; Macintosh & Scapens, 1990, 1991). Accounting scholars have also
35 attempted to broaden the notion of structuration within management accounting to take into
36 consideration broader political, economic and social structures within which organisations
37 operate (Conrad, 2005; De Araújo & Cullen, 2012; Dillard, Rigsby, & Goodman, 2004;
38 Lawrence et al., 1997; Uddin & Tsamenyi, 2005).
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47 Other studies are critical in their nature, illustrating some theoretical and
48 methodological implications that are generated by the diverse use of the mediating concepts
49 of ST in management accounting research (Boland, 1993, 1996; Englund & Gerdin, 2008).
50 For instance, Englund and Gerdin (2008) argue that when management accounting
51 researchers locate routines and rules at the level of interactions or modalities, they tend to
52 rely on research methods that may not correspond to their research objectives. This is
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3 because examining social interactions differs from analysing abstract modalities. When the
4 rules and routines are conceptualised as abstract modalities that generate actions, researchers
5 may encounter constraints in capturing social practices. Social practices are carried out in
6 organisations to create and produce meanings to social life. On the other hand, when
7 researchers indifferently locate the rules and routines at the level of interaction, there lies a
8 *caveat* that they may inadequately capture the structural principles of action relating to
9 specifically situated practices. Despite the existence of these different strands of ST-based
10 management accounting research, **limited** attempts been made to examine the usefulness of
11 Giddens' analytical categories in the reproduction of efficiency in a Latin-American context.
12 **We address this** theoretical gap in the **the** study.

21 Various calls for extending the scope and implications of ST in accounting research
22 have been made. For instance, there is an emerging group of scholars who have attempted
23 to extend the applicability of ST in accounting research, proposing the so-called strong
24 structuration theory, where both the macro and micro level analysis are emphasised
25 (Adhikari & Jayasinghe, 2017; Feeney & Pierce, 2016; Harris, Northcott, Elmassri, &
26 Huikku, 2016; Jack & Kholeif, 2008; Makrygiannakis & Jack, 2016; Moore & McPhail,
27 2016). Other accounting scholars have also made a call for more micro-situated studies
28 (Englund & Gerdin, 2014; Jack, 2017; Jayasinghe & Thomas, 2009; Roberts, 2014). They
29 argue that such studies would increase our knowledge about the reproduction of structural
30 meanings and resources, the configuration of social realities through MAPs, and the
31 assumptions underlying the conduct of agents. Our paper **also** adds to this call for promoting
32 micro-situated studies, exploring the way that agents have implicated MAPs in the
33 reproduction of efficiency in a Latin-American public enterprise.

45 **Research methods**

49 This is an interpretive case study and the data were derived using three sources -
50 interviews, observations and document analysis. In the process of data triangulation, we
51 analysed the annual reports of CMC from 1948-2014, undertook 41 interviews consisting
52 of 10 unstructured, 20 semi-structured, 21 email interviews and made 10 non-participative
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3 observations. Our fieldwork proceeded through three stages. At the outset we undertook 10
4 unstructured interviews between January – April 2014 and started developing our
5 preliminary analysis. This enabled us to generate insights into the financial performance of
6 the company and the implications of the notion of efficiency and MAPs in the day-to-day
7 operation of the company. This analysis also guided us in the subsequent data collection,
8 primarily to formulate the questions for the semi-structured interviews, held between
9 September-December 2014. Each interview lasted an average of 70 minutes, and 6
10 employees were interviewed on more than one occasion. The remaining interviews were
11 carried out through emails in the third stage of the fieldwork, lasting between January-April
12 2018. All our interviews were carried out in Spanish. During the semi-structured and
13 emailed-interviews we asked our informants several questions relating to the influence of
14 the School of Mines in internalising the notion of efficiency, NPM reforms in Colombia,
15 the adoption of different MAPs overtime and their implications in practice and the manner
16 in which there was an attempt to achieve efficiency through MAPs, amongst others.
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28 The parent company of CMC provided us with an interesting research setting to
29 explore the role of MAPs in reproducing the market-led structure and agency. By the end of
30 2014, CMC was restructured and a group of 50 companies were established under the
31 umbrella of CMC; 36 of these companies are located in Central America, South America
32 and the Caribbean and the remaining are in Colombia (CMC, 2014). Since 2000, CMC has
33 established itself as the second largest public company in Colombia and has been operating
34 in the form of a business conglomerate (Varela, 2011). An interesting aspect of CMC
35 perhaps concerns the fact that it has also been able to function as a state owned company
36 (Varela, 2011). Other similar Latin American utility companies in Argentina, Chile and
37 Brazil went through privatisation, as they failed to cope with the pressure exerted by the
38 World Bank (WB) and the International Monetary Fund (IMF) (De Araújo & Cullen,
39 2012).
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49 ST influenced our data collection and analysis. In particular, our objective has
50 generated insights into the way the agents have embedded efficiency as a corporate value at
51 CMC, altering its ethos and practices while being operated under state control. The ideas of
52 ST have acted as a sensitising device structuring our empirical analysis (Adhikari &
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Jayasinghe, 2017; Busco, 2009; Englund, Gerdin, & Burns, 2017). ST, being more than a framework for conceptual analysis, has offered us a tool through which to assemble abstract structures, with empirical data and generate a nascent understanding of public sector efficiency in emerging economy contexts (see Stones, 2005, cited in Coad *et al.*, 2016).

Management accounting practices and efficiency in the CMC

In this section, we analyse the role of MAPs in shaping efficiency at CMC. The section starts by highlighting the historical changes that took place in CMC and the emergence of NPM reforms. We then present the changing social structures that CMC faced during the 1990s and the implication of different MAPs with a view to restoring the notion of efficiency in the company.

4.1 The historical development and the changing social structures at CMC

From 1899 to 1902, Colombia faced a civil war, the so-called "The Thousand Days' War". The war resulted in the defeat of the liberal party and the establishment of a conservative hegemony which persisted until 1930. The conservative hegemony marked the growing intervention of the Colombian State in the economy. This period has been referred to by historians as "state-led industrialisation", a period in which the focus was on achieving economic progress through modernisation, demographic development and the promotion of industries (Bértola & Ocampo, 2013). The establishment of utility companies was on the agenda, particularly to address local demand and this led to the construction of a company in Macondo in the 1930s. The scope of the company was extended over the decade and named as CMC by the middle of the 1950s.

CMC, established in 1955, was modelled adopting the legal structure of the Tennessee Valley Authority of the United States. Despite being operated as a public enterprise, decentralisation and autonomy were the two founding pillars of the company. In fact, the establishment of CMC dated back to the 1920s when the construction of the first

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3 hydroelectric plant was carried out in Macondo to promote urban growth and improve
4 service delivery [3]. In 1951, the International Bank for Reconstruction and Development
5 undertook a diagnosis of the demand for electricity in Macondo and made
6 recommendations for the utilisation of rich water resources of the region (J. López, 2005).
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11 Since its establishment, CMC served as a kind of laboratory for engineers who
12 graduate from the School of Mines, to deploy their technical skills and administrative
13 capabilities (Mayor, 1989). The School of Mines evolved in Colombia as the key institution
14 producing the required technical administrators who could drive the state-led
15 industrialisation initiatives that began in the 1930s. These engineers pursue a rigorous
16 control of resources and applied accounting methods incorporated into the industrial
17 economic courses of the School of Mines. In this regard, unlike many other state
18 enterprises, CMC was equipped with the necessary skills and capacity to assume
19 accounting reforms and to reflect its organisational outcomes through financial planning
20 (Mayor, 1989).
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31 Multilateral development banks were involved in the configuration of the business
32 model in the public services provisions of Macondo. CMC was also able to receive the
33 industrial sector support of Macondo, which enabled the company to supply water,
34 telecommunication and electricity services, being an autonomous decentralised company.
35 The adoption of the technical rational model of management, guided by the engineers of the
36 School of Mines, led to CMC implementing financial planning and accrual accounting
37 practices in each service the company offered to the households of Macondo. The technical
38 rational model of management that prevails in CMC is built on the notion of efficiency and
39 the adopted MAPs were not different to other private business-like practices; these
40 practices were, however, at odds for a Colombian public entity by that time.
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50 The transformation of CMC as a national and international conglomerate occurred
51 after the structure of domination changed in the Colombian utility sector during the 1990s.
52 As outlined in prior work (Hopper et al., 2009; Jayasinghe & Uddin, 2019; Van Helden &
53 Uddin, 2016), the state-led model of industrialisation was replaced by market-led reforms
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3 also in Colombia, providing utilities companies with the opportunity to operate within
4 market competition. CMC took advantage of this new structure of domination and started
5 purchasing and consolidating many utility companies operating across the country. A new
6 regulation for public utilities, Superintendence, provided the legitimacy for the
7 marketisation of utility companies in general and CMC in particular.
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12 While introducing the market-led reforms, a dialectic relationship (Giddens, 1984)
13 between the public sector regulatory process and CMC was evident. During fieldwork, we
14 were told that the managers of CMC set up a study group of 40 employees, who were
15 responsible for proposing suggestions to the government regarding the regulatory reform
16 process. Mentions were made that many such suggestions were incorporated also when
17 undertaking the constitutional reforms of Colombia in 1991 (Garcés, 2004). For instance,
18 the new pricing structure proposed for the Colombian utilities sector after the regulatory
19 reforms were already being implemented in CMC. Varela (2011) argues that perhaps there
20 was no other utility company in the country that had both the skills and human resources
21 capable of influencing public sector reforms. CMC was therefore able to promote its own
22 interests in the design of public policies, which could structure the functioning of the
23 Colombian household service sector for decades to come.
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34 The state's responsibility in providing access to utility services and price regulation was
35 limited after the reforms. The emerging structure of legitimation had a focus on
36 commercialising utilities, considering them as an economic commodity. This provided a
37 new understanding of utilities and their provision. Prior to the reforms, access to utilities
38 was perceived as a fundamental right of every citizen, regardless of ability to pay (León
39 Paime, 2005; Ocampo-Salazar, 2017). Direct subsidies offered to households in consuming
40 utilities formally ended by the late 1990s. The legitimation structure was further reinforced
41 by granting the Superintendence of Public Utilities the authority to sanction, intervene and
42 liquidate utility services deemed unprofitable and inefficient.
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50 Market-led reforms also influenced the segmentation of production cycles
51 (transmission, generation and commercialisation) at CMC. For instance, utilities were
52 vertically disintegrated to liberalise the markets of generation, promote the
53 commercialisation of electricity services and introduce market competition (Boehm, 2005;
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3 Tsamenyi, Cullen, & González, 2006). In the case of Colombia, the regulation enabled the
4 services of generation and the distribution of electricity to be offered by the same company
5 only if such services were integrated into a single company prior to the regulation, as was
6 the case for CMC. Overall, the market-led reforms reinforced the elements of the business
7 model that CMC had already put into effect, thereby contributing to the configuration of the
8 company as a profitable business. Central to these elements were managerial autonomy,
9 long-term financial planning and its technostructure (Aristizábal et al., 1988; J. López,
10 2005; Varela, 2011). Managerial autonomy was maintained by being predicated on
11 independence in its operation, mainly to prevent clientelism and patronage practices
12 through a rigorous recruitment process. A long-term financial planning approach was
13 revisited following the recommendations of multilateral development banks. In 2011,
14 further reforms were initiated to incorporate a corporate governance model, as part of
15 fulfilling the loan conditions of the IDB. That adoption of corporate governance models has
16 become a key loan condition of international organisations to emerging economies, is also
17 evident in prior work (Hopper, Lassou, & Soobaroyen, 2017).
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30 Adopting these market-led reforms, CMC was able to execute its plans both locally and
31 internationally, positioning itself as an operator of strategic public services in Latin
32 America (Varela, 2011). The company has evolved as the parent company of a business
33 group, which is still in operation in Colombia, Chile, Mexico and Panama. This
34 conglomerate has turned out to be one of the largest businesses in Colombia in terms of the
35 levels of assets, sales, job creation and the coverage of public services. Throughout its
36 history, CMC has passed through different stages of growth at different levels: local (1955-
37 1999), regional (2000-2007), national (2007-2009) and international (2010-2015) (Rojas
38 Burgos, 2015). The following sub-section will focus on an analysis of the perceptions of
39 efficiency in CMC, shedding light on the role of the School of Mines, multilateral
40 development banks and the technostructure.
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52 4.2 *The construction of efficiency at CMC* 53 54

55 Both the School of Mines and multilateral development banks have played an
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3 important role in inculcating efficiency as a core corporate value in the mind-set of CMC
4 employees. The technical rationality that prevails in CMC, which has protected its
5 administrative autonomy, was strongly influenced by the School of Mines in Macondo
6 (Aristizábal et al., 1988; González, 2014; Mayor, 1989). The practical knowledge and
7 technical skills developed by students in the School qualified them to handle business
8 matters such as capital acquisition, cost rationalisation and profit and market forecasts
9 (González, 2014). The notion of efficiency was at the heart of the trainings and courses
10 offered in the School. The notion was elucidated to the participants as “*the virtue or power*
11 *to produce the greatest functional and economic effect at the same time*” (A. López, 2011).
12 In fact, many engineers who graduated from this School had worked as the CEO of the
13 company long before the company was legally constituted (from 1920-1970) (González,
14 2014). This means that efficiency is not something that was introduced by the market-let
15 reforms in the context of CMC. This notion is still reflected in the everyday operation of
16 CMC, as the following statements by the Vice President and Manager illustrate:
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29 *“Doing more with less or at least doing the same with less resources every*
30 *time...efficiency brings implicitly the idea of getting the most out of any*
31 *type of resources that we need to manage... I think that CMC does that very*
32 *well (Vice-president6)”*.
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35 *“Budget is an administrative and legal tool that coordinated with financial*
36 *planning enables CMC to make a fair allocation of resources in the sense*
37 *that CMC takes care all the time of doing more and much better things with*
38 *less money” (Manager3)*.
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43 The above statements show that efficiency in CMC has been understood as a way of
44 optimising the use of resources under the possession of employees. This criterion resembles
45 the one used by WB in its loan conditionality to CMC, as well as other Latin American
46 countries (Neu, Everett, & Rahaman, 2009). The WB efficiency criterion implies
47 engendering and delivering high quality services at lower costs (Neu, Gomez, Graham, &
48 Heincke, 2006). Efficiency is therefore a part of CMC’s organisation culture, given its
49 protracted financial relationship with the WB. CMC has **continued to put in place** a strong
50 technical and financial measure, which could enable the company to maintain rigorous
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3 control over external resources obtained in the form of loans. For instance, a Vice-
4 President and ex-Manager remarked:
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8 *"The very early relationship with multilateral banks created a culture in*
9 *CMC from the technical, legal and financial aspect that we called,*
10 *throughout the history of the company, the technical-financial and legal*
11 *rigour" (Vice-president 3).*
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15 *"The banks made loans and technicians from the World Bank come to*
16 *teach us how to apply methodologies, to make financial projections. We*
17 *did financial projections. I used to speak with people of very important*
18 *private companies and they only had budgets, but they did not have*
19 *financial projections" (Ex-manager3).*
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23 The idea of efficiency is therefore not new to CMC managers, given their
24 connection with the School of Mines. What is interesting, however, is their attempt at
25 embracing several management accounting tools, claiming their significance in the optimal
26 use of resources acquired through the WB. In fact, accounting and budgeting changes have
27 become more frequent at CMC since the company sought financial support from
28 multinational banks in the 1950s. For instance, in 1955, CMC was forced to set up
29 autonomous management policies, including accounting and budgeting, to maintain
30 financial autonomy of the "Electricity Company", which was a concern of the WB
31 (Aristizábal et al., 1988) [4]. CMC responded by creating a separate set of accrual
32 accounting for each business unit (electricity, water and telecommunication) (Aristizábal et
33 al., 1988). This separation of business units also enabled CMC to account for and report the
34 assets, liabilities, equity, revenues and expenses incurred in each unit and assess their
35 efficiency in resource management. As a result, efficiency became a benchmark at CMC
36 through which to calculate inputs and outputs achieved. CMC **also attempted** to calculate
37 and present operating efficiency ratios, comparing "inputs" vs. "outputs" consecutively
38 from 1956 to 1961 (CMC, 1961). The use of accrual accounting has enabled CMC to
39 generate the necessary accounting information for the calculation of input and output and
40 ensure efficiency.
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3 From a ST viewpoint, information that MAP generates is regarded as ‘non-material
4 resource’, which allows control over the actions of agents to be maintained (Englund et al.,
5 2011; Macintosh & Scapens, 1990; Roberts & Scapens, 1985). This concept provides
6 insights into how the structures of signification, domination and legitimation are embedded
7 in CMC and how these structures reinforce a "rigorous control of resources". The control
8 culture and practice emanated in CMC, is mainly due to the influence of the School of
9 Mines and early interactions with multilateral development banks. The following sub-
10 section explains how requirements imposed by multilateral development banks have been
11 institutionalised in CMC through MAPs, especially by the use of an accounting-budgeting-
12 financial planning triad.
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21 4.3 *The accounting-budgeting-financial planning triad as a distinctive characteristic of* 22 *the business model of CMC* 23 24 25

26 The financial planning at CMC is carried out annually and accrual accounting is
27 used as an apparatus through which to record the accumulated capital. The 1979 audit
28 report explained that the method used by the company to prepare the budget was based on a
29 projected accounting statement, incorporating the sources and uses of funds (CMC, 1979).
30 Efficiency was measured then on the basis of capital used in each activity, and through the
31 monitoring and evaluation of capital changes and profit forecasts. This shows that the
32 concern is not only to control spending, but also to augment the revenues generated by each
33 business unit. This feature of accounting, budgeting and planning systems **perpetuated in**
34 CMC is a distinctive characteristic of the company, as evidenced by the following
35 statements by a Director and a Manager:
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44 *“In CMC, the budget is based on accruals and with the same level of*
45 *detail of accounting... accrual accounting in the public sector became*
46 *mandatory in 1994 when the General Accounting Office was created. But*
47 *we already managed accrual accounting, while public sector was based*
48 *on cash flow. Additionally, we were very strong in the budget since we*
49 *handled the same accounts between accounting and budget” (Director 3).*
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53 *“The CMC budget is based on accrual accounting and more than being a*
54 *legal tool for cash control, it is an administrative tool to support*
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3 *management. On a board of directors, I show if the expected indicators*
4 *were met and from there, important decisions are made” (Manager 1).*
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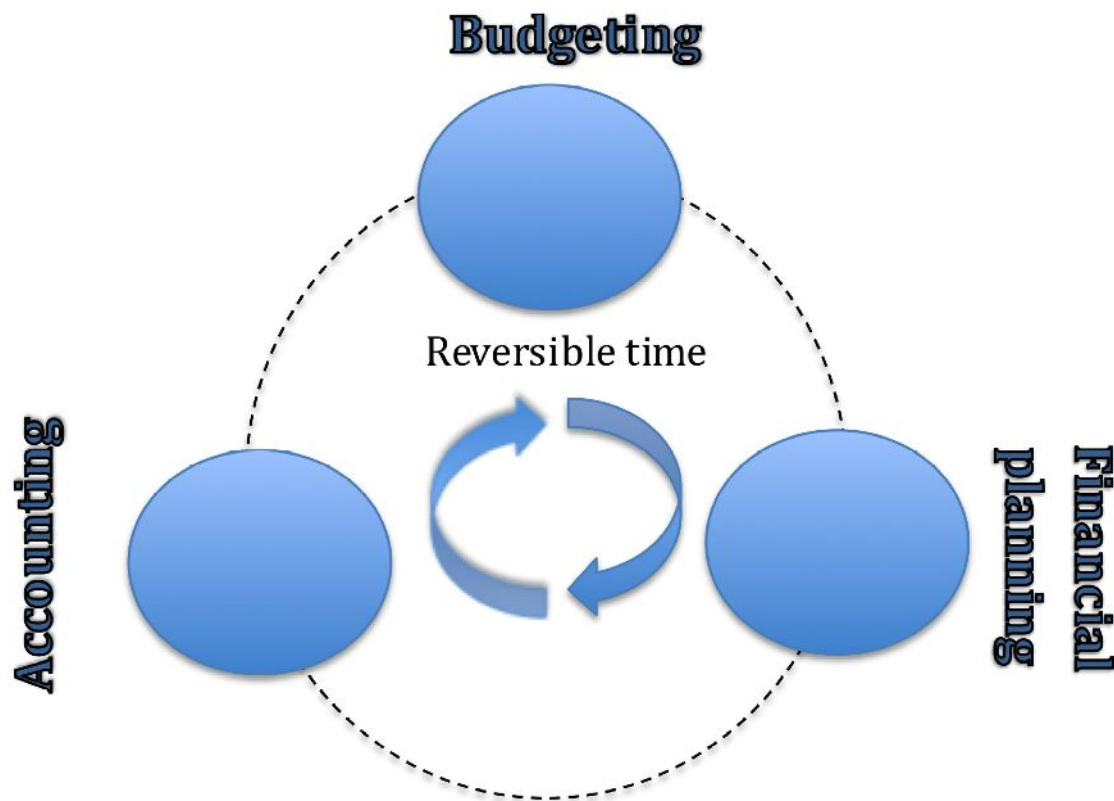
7 CMC is therefore interesting in that the accrual principle is **continually** put into
8 effect both for accounting and budgeting. In a contemporary global context, this is a
9 practice which is yet to be accepted across public sector entities and countries (Adhikari &
10 Gårseth-Nesbakk, 2016). A large number of public sector entities and countries who have
11 adopted accrual accounting have rejected accrual budgeting and this is thought to be a key
12 reason for unintended consequences in public sector accounting reforms (Blondal, 2003;
13 Brusca, Montesinos, & Chow, 2013). By contrast, we were told during our interviews that
14 accounting has served as the backbone of the budget in CMC and the fact that the budget
15 has been grounded in financial planning since the late 1970s, has enabled the company to
16 maintain a tight control over the misuse of resources. It was observed that the construction
17 of the budget in CMC has followed detailed procedures due to its integration with the
18 accounting system based on accrual principles. In many ways, it serves as a projected
19 accrual accounting statement.
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30 The triad consisting of accounting (entity-accumulation of capital), budgeting
31 (resource allocation) and planning (control-order) is integrated in the operating structure of
32 CMC to ensure that the financial indicators agreed with multilateral development banks are
33 met (León Paime, 2005). In a way, this triad acts as a modality, mediating the structures
34 and action on the proposed financial objectives. Macintosh and Scapens (1990) have argued
35 that in the structure of signification, accounting modalities are useful to interpret past,
36 present and future actions of organisational members, applying accounting terminologies
37 such as profit, cost, income and expense. In the structure of legitimation, accounting
38 modalities establish what is correct or incorrect in relation to financial expectations. In the
39 structure of domination, accounting modalities involve the techniques and strategies,
40 enabling the exercise of control over the activities of organisational members (Macintosh &
41 Scapens, 1990).
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52 The triad has enabled CMC to retrieve accounting information on past performance,
53 making it possible for the company to plan for the future and connect it with the present.
54 The use of the triad in CMC can also be related to the reversible time of social institutions,
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as outlined by Giddens (1990). Giddens, (1990, cited in Barrios and Rivera, 2011) draws on Lévis-Strauss to define reversible time as the temporality of repetition, where the past is a means to organise the future. This reversibility enables the connection of different paths of space-time and reconstructs the past, present and future experiences through the institutionalisation of routines. This connection between planning, budget and accounting and the reversibility of time is depicted in Figure 1.

Figure 1: Reversible time of the accounting, budgeting and financial planning triad



In general, the accounting-budgeting-financial planning triad has helped embed a dimension of time in CMC through the establishment of the financial year, monthly budget, weekly financial reporting and daily cash statements. Both the past and the future are therefore connected, using accounting and brought to the fore of day-to-day operation of the company (Seal, Berry, & Cullen, 2004). In this regard, it is worth recalling Giddens' (1984) discussion on the 'double-entry book-keeping' as a kind of time machine that

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3 enables continuous and long-term evaluation of capital changes, comparing the value of
4 assets at the beginning and end of a period, which he claimed is essential for the
5 establishment of capitalist enterprises.
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9 Taking into account such underlying notions of ST, it can be argued that MAPs'
10 inter-connection with the accounting-budgeting-financial planning triad has played an
11 important role in the modernisation of CMC by emphasising profitability and executing the
12 technical rational model of management. Instrumental rationality of capital is another form
13 of efficiency, which benefits organisations in maximising the utilisation of their capital
14 (Gómez-Villegas, 2009). On the whole, this triad has promoted long-term financial
15 decisions at CMC, instigating collaboration and planning between the managers and
16 employees and motivating them to achieve organisational goals. For example, interviewees
17 stated that any project of CMC has to undergo cost calculation and asset valuation prior to
18 its approval. Thus, project managers in CMC have to collaborate with the finance team to
19 ensure that the project plans meet the finance and accounting requirements. The following
20 statements by a CEO and a Director serve as examples:
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30 *"Any investment project selected should have consent from the finance*
31 *vice-president, who is responsible for asserting whether the project is*
32 *contributing or not to value generation of CMC" (CEO).*
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36 *"My current role is carrying out specialised technical studies related to*
37 *CMC businesses...the technical structuring of infrastructure projects,*
38 *elaboration of detailed designs for the construction of works related to*
39 *each business. CMC has always been extremely careful with its*
40 *accounting practices, so that daily activities are permeated by these*
41 *practices. In my particular case, I strictly follow what the finance and*
42 *accounting areas require" (Director5).*
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46 The important role that MAPs have played in CMC is evident in the above-
47 mentioned quotes. Each selected project at CMC is evaluated using the criteria of resource
48 consumption. The adoption of the triad to control resource mobilisation reflects the
49 mediating role of the structural dimensions at CMC. For instance, referring to ST, the
50 management accounting tools can be conceptualised as modalities. They can play an
51 important role in the reproduction of social structures, through the articulation of agency
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3 and structure (Englund et al., 2011; Macintosh & Scapens, 1990; Roberts & Scapens,
4 1985). Given that social structures contain rules and resources, CMC as a business is
5 structured in a way to become profitable.
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9 Thus, the management accounting tools mediate between the meaning of CMC as a
10 profitable business, and the social actions that reproduce those meanings. In this way, the
11 meaning of CMC as a profitable business has been reproduced, enabling the establishment
12 of routines and regularised practices. These routines and practices have in turn triggered the
13 standardising of the behaviour modes in CMC. We observed that accounting information
14 produced by the accounting-budgeting-financial planning triad represents a form of
15 organisational memory within CMC, as well as acting as a recall mechanism to standardise
16 behaviour modes. This recall mechanism is important to retrieve past actions, reinforce
17 efficiency, and provide explanation about the extent to which certain financial targets set
18 have been met. Accounting information creates a link between budgeting and planning
19 information, through the updated and continuous maintenance of archives, thereby
20 constituting the organisational memory of CMC and reinforcing its long-term approach,
21 consolidated during the 1970s.
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32 At that stage, a CEO, who served the company between 1975-1986, left his mark
33 through developing the foundation for market-led reforms. Prior to managing CMC, this
34 CEO had held managerial positions in a range of Colombian companies and gained
35 substantial experience, skills and other transformative and negotiating capabilities essential
36 for the day-to-day operation of CMC. As part of consolidating the business model, this
37 CEO instigated three noticeable reforms in CMC. Firstly, a consensus was reached with the
38 city council which lessened political intervention and reinforced the managerial autonomy
39 of CMC [5]. Secondly, private sector analysts were hired in the mid-1970s to restructure
40 the financial and planning offices of CMC following the criteria applied in the private
41 sector. Thirdly, a long lasting bureaucratic ethos of the technostructure was strengthened
42 through the rigorous control of resources (Aristizábal et al., 1988; Varela, 2011).
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52 The business model of CMC therefore emphasises the control elements integrated in
53 management. For instance, management reports since the time of the constitution of CMC
54 have continually highlighted the rigour of the accounting and economic calculations of the
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3 company to guide future activities efficiently (Aristizábal et al., 1988). By contrast, in the
4 other Colombian public utilities, a tool that could optimise the operation of the companies
5 and ensure quality of service was either unknown or absent (Cabra, 2011). In addition to
6 the absence of regulatory instruments in these companies, the absence of systems of
7 management and a lack of evaluation allow employees to pursue activities either benefitting
8 their personal interests or promoting political patronage, administrative corruption and
9 patronage-based mechanism. These have become common practices across utilities
10 operating in Colombia (Cabra, 2011). Varela (2008) stated that political groups dispute
11 over the control of resources within public utilities in Colombia and each group lobbies to
12 allocate contracts to suppliers who represent their network and to capture part of the public
13 resources collected by utilities in the form of tariffs. The next sub-section succinctly
14 presents how CMC was transformed to embrace NPM reforms and the connection between
15 efficiency and MAPs at CMC within the purview of these reforms.
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26 4.4 *Efficiency through management accounting practices at CMC*

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31 As is the case in other emerging economies (Uddin & Hopper, 2001, 2003),
32 privatisation of public utility companies, as recommended by multilateral development
33 banks, remain controversial in Colombia (Colprensa, 4 de enero de 1990). Different types
34 of public sentiments prevail, both supporting and opposing the privatisation initiatives. For
35 instance, a retired director board member mentioned during our interviews that while some
36 cities experienced social protests due to the dwindling quality of utility services, citizens in
37 Macondo were against the idea of privatising CMC, as illustrated by the following
38 statement:
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45 *“In 1991 when the government attempted to privatise CMC, there were*
46 *counterarguments that showed that it was efficient as a public company.*
47 *We stated that in the last 30 years, CMC had built the capacity to*
48 *generate and transmit electricity at competitive prices and to transfer*
49 *profits to the municipality at the same time... When the City Mayor*
50 *presented the privatisation proposal, we obtained 19 votes from city*
51 *councillors who were against the privatisation of CMC and 2 votes from*
52 *city councillors who supported the privatisation of the company” (Ex-*
53 *member of board of directors).*
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3 The above quote reflects that CMC is perceived as an efficient public company not
4 only for its capability in offering electricity services at competitive prices but also for its
5 capability in terms of making profits which can be transferred to the municipality of
6 Macondo. Several other interviewees also acknowledged this image of CMC:
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11 *"CMC is one of the most efficient public utilities in Latin America, even*
12 *compared with private utilities. Efficiency indicators are comparable to*
13 *other privately-owned utilities." (Investment officer at IFC)*
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17 *"I refer to CMC as an example when other organisations in Latin America*
18 *ask me for help on how to achieve good performance in the management of*
19 *a public organisation. I always suggest that other organisations visit CMC*
20 *in order to learn its processes" (Senior director of IDB for Colombia).*
21

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23 *"CMC is an archetypical organisation in terms of the success of public*
24 *managerialism" (Public sector expert).*
25

26
27 CMC had built up an image of being an efficient company, prior to the
28 dissemination of NPM reforms in other sectors of Colombia. Prior work discusses the role
29 played by consulting firms in executing NPM reforms (Ashraf & Uddin, 2013). While in
30 some cases, these firms intervened in the (re) structuring of the entire public sector (Van
31 Helden & Uddin, 2016), in other cases their engagement was limited to propagating and
32 implementing certain accounting technologies, accrual accounting serving as just one
33 example (Christensen, Newberry, & Potter, 2019)). We were told during our interviews that
34 PwC consultancy was hired in Colombia in the 1990s to facilitate the NPM-styled
35 transformation in the utility sector. This was supported and financed by the WB, as
36 evidenced by the following statement:
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45 *"Colombia was one of the countries that received consultants paid by the*
46 *WB... The consultant was a company called Coopers & Lybrand, which is*
47 *now part of PwC... What they did recommend for these countries was*
48 *exactly the commodity model for the electricity market from Britain.*
49 *Colombia probably had less opportunity to say no to the WB because the*
50 *loans were conditional on them accepting privatisation like the British*
51 *model" (British professor of energy policy).*
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Coopers & Lybrand was earlier involved in facilitating the market-led reforms in the electricity sector of Brazil (De Araújo & Cullen, 2012). In 1997, PwC, the then Coopers and Lybrand, was hired by CMC to design its new organisational structure and transform the company into a commercial and industrial enterprise of the State. This new organisational form emanated in the company was very much a reflection of NPM ideas. It enabled CMC to structure the company into corporatised units based on products and services offered, and pursue cost centre accounting (Hood, 1995). The emerging organisational form was reinforced by creating Strategic Business Units (SBU), and, additionally, through the introduction of activity-based costing (ABC). In 1994, a new regulation was enacted by the Colombian government mandating the application of ABC across all public utilities. The importance of ABC for utility companies was predicated on the assumption that it would help identify service costs and reduce inefficiencies.

Continuing NPM reforms, further accounting regulations were imposed on state-owned enterprises, mandating them to prepare and submit accrual-based financial statements to the General Accounting National Office established in 1996. Although accrual basis accounting was already enforced in CMC, these regulations further legitimised and strengthened the notion of efficiency in the company. In particular, the efficiency indicators adopted in the CMC moved beyond the simple calculation of input/output ratio, covering expenses and revenues. In addition, profitability targets and return on investment indicators were adopted in the company, integrating them within the balanced scorecard (BSC).

The adoption of the BSC **was** claimed to be important to support long-term planning and control the performance of different business and production units, in line with the EBITDA target set out. Tracking the EBITDA target through the use of BSC, the company sought to reinforce the responsibility assigned to each business unit. The indicators selected were aligned with the strategic objectives of the company, and the trend has continued since then. For example, commenting about the significance of the BSC and the EBITDA target, interviewees stated:

"When we defined our EBITDA target, we first had to make savings to reach that goal. Strategic Business Units were given an income target and we asked them to make their businesses profitable" (Manager3).

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3 *"For us, financial issues implied planning and having budgets not as a*
4 *state entity but as a private enterprise. We wanted to know the growth of*
5 *each Strategic Business Unit, their cash flow and be efficient in making*
6 *financial projections" (Vice-president 3).*
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10 The manner in which the financial indicators have been developed and monitored in
11 CMC using MAPs, provides further evidence of the articulation of signification,
12 domination and legitimation structures in day-to-day practice. The strategic objective of the
13 company to make it a profitable business represents the rules of signification, whereas the
14 achievement of an EBITDA target is more of a structure of legitimation. These structures
15 are embodied through different MAPs, which have helped the company communicate the
16 importance of achieving the EBITDA and enforce the rigorous monitoring of business
17 units.
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25 During our fieldwork, we noted that employees serving in the company for a longer
26 period of time (more than 20 or 30 years) has significantly influenced the legitimisation of
27 efficiency using MAPs. These employees form the technostructure, incorporating the
28 expertise, experience and talents that organisational members can offer to the company
29 (Galbraith, cited in Aristizábal *et al.*, 1988). The technostructure participates in and
30 contributes to the decision-making process of the company. This technostructure also plays
31 an important role in shaping efficiency, transmitted from one generation to another in the
32 form of corporate value. Central to the corporate value is the rigorous control of resources
33 in day-to-day practice to achieve efficiency, as the following statements by the Vice
34 President, Manager and employee illustrate:
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44 *"When I came here to the base of the professional line, I was told: listen,*
45 *here you have to take care of every penny, each penny is sacred, each*
46 *penny is public. Today it is my task to inculcate the next generations in*
47 *that" (Vice-president 3).*
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50 *"In CMC remains a strong inclination to train people, which generates a*
51 *high sense of belonging, of employees defending the company interests as*
52 *their own. The technostructure establishes a technical rationality, which*
53 *forms the company culture, based on technical knowledge. Moreover, the*
54 *middle management defends the company and the technical development of*
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3 *people to ensure technical rigour in the decision-making of the company,*
4 *which is not subject to political decisions" (Manager2).*
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8 *"... sometimes a new CEO gets here imposing things that we disagree with*
9 *and we do not let them. The manager can say: we need to pay this money for*
10 *such thing and we say, everything here is strictly business, and it [the*
11 *payment] must have legal supporting documents... " (Employee1).*
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15 The above statements reflect the capacities of the middle managers of CMC
16 technostructure in exercising rigorous control of resources. CMC employees have
17 internalised the efficiency value, transmitted through the technostructure and there is an
18 institutionalised tradition of seeking efficiency in the use of public resources. Although the
19 CEO has the authority to allocate resources, the middle managers are assigned with the
20 power to scrutinise whether such allocations are legal. **These managers can also re-assess**
21 **the situation** and re-disburse the resources. From the ST perspective, this reflects the role
22 that agency can play in influencing the overall practices of the organisation. The request for
23 legally supporting documents is part of the existing control mechanisms to protect the
24 resources of the organisation.
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34 The expenditure's legality is verified following the technical procedures
35 incorporated in the technostructure, and also supported by documentary evidence. For
36 instance, we were told during our interviews that the control of MAPs is complemented by
37 exhaustive periodical statements of income and expenses, corroborated with documents, to
38 assess the extent to which expenditures are strictly related to CMC business activities.
39 These practices seek to prevent the manipulation of accounting information and the
40 falsification of data. In this manner, MAPs play an important role in internalising this value
41 of efficiency, making employees accountable for the results and value for money. The
42 manner in which technostructure exercises power in CMC is in line with Giddens' ideas
43 with regard to the role of agents in the production and reproduction of social structures.
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53 In the context of CMC, the stock of knowledge appropriated by members of the
54 technostructure, enables them to exercise control over the performance and actions of new
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3 members and legitimise the values of the company. The technostructure ensures that junior
4 and new employees exercise MAPs in controlling resources and engendering efficiency.
5 Not only does the technostructure contribute to the reproduction of social structures, but it
6 also reinforces control in the hiring process of CMC. This ensures that employees get their
7 jobs based on their qualification and competence, rather than political clientelism. For
8 instance, the CEO and the Director commented:
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15 *"The autonomy of CMC is absolute. The City Mayor understands his role*
16 *as an owner very well and never gets into absolutely anything that has to*
17 *do with a selection process. We have a very independent director board*
18 *and that is a guarantee for that autonomy" (CEO).*
19

20
21 *"The shield of CMC is made by its personnel selection. These are open*
22 *processes, with very strict conditions...within the hiring process; we apply*
23 *psychological tests to know about honesty and good habits of aspirants.*
24 *Once they are hired, their values are reinforced through the culture that*
25 *public money should be managed and invested rationally with efficiency*
26 *criteria" (Director2).*
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31 The above quotes demonstrate that CMC has established a recruitment process
32 keeping it beyond political influence. The protection of resources is the objective of the
33 engineers, thereby contributing to strengthening the technostructure rationality in the
34 company. They also play an important role in perpetuating the structure of domination by
35 ensuring that the financial indicators imposed by authorities during the loan agreements are
36 achieved. This need for meeting financial indicators shapes the daily practices of
37 employees. By combining engineering and financial knowledge, management accounting
38 terms like profitability and return on equity are deeply integrated in pursuing efficiency in
39 CMC (A. F. Coad & Herbert, 2009; Conrad, 2005; Moore & McPhail, 2016). For instance,
40 the Vice President commented:
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50 *"I am a civil engineer with a specialisation in finance. The financial*
51 *director hired me because she said that it was very important to have a*
52 *more fluid communication channel with the technical areas and that it was*
53 *easier to train an engineer in finance than a financier in engineering... by*
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3 *that time 4 engineers were hired and we started to study a specialisation in*
4 *finance paid by CMC" (Vice-president6).*
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8 In terms of the structure of signification, accounting functions as an interpretative
9 scheme to communicate the extent to which the CMC is a profitable business. MAPs
10 materialise this idea. Indeed, the introduction of the concept of CMC as a profitable
11 business has been significantly influenced by the market-led reforms of the 1980s and
12 1990s. However, the relationship created between the engineers-financiers belonging to the
13 technostructure and the triad, has an important role in terms of reinforcing the pursuit of
14 efficiency in the company.
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21 We were told during our interviews that CMC's technostructure has helped the
22 company to successfully embrace public sector reforms, emphasising competition,
23 profitability and service-orientation. The technostructure not only reinforces the business-
24 like practices inside the CMC headquarters, but also in the new companies acquired by
25 CMC as part of market expansion. As an owner or a majority shareholder, CMC uses its
26 decision-making power to introduce financial discipline in those new subsidiaries to
27 achieve cost control and efficiency improvement, as illustrated in the following statement:
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34 *"The territories where we bought the electricity distribution companies did*
35 *not used to receive any resources from those companies because these were*
36 *captured by political parties and the community did not benefit from them.*
37 *When CMC arrived, we implemented good practices, meritocracy,*
38 *transparent management of public resources, operational efficiency, loss*
39 *control, and they became profitable companies that generate dividends and*
40 *that have transferred a significant amount of resources to their territories"*
41 *(CEO).*
42
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44 The change in business processes in the new subsidiaries of CMC is a testament to
45 Giddens' domination theory. While discussing the structure of domination, Giddens (1984)
46 posits that organisations undergo structural change, as a result of changing power dynamics
47 and domination.
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Discussion and conclusions

This paper provides empirical evidence delineating how and why MAPs have shaped efficiency in CMC. The way that the accounting-budgeting-financial planning triad has operated in CMC contrasts with what has been discussed in prior work on emerging economies (Hopper et al., 2017). The market-led NPM reforms imposed by multinational banks in the name of promoting efficiency and effectiveness have drawn more critics in emerging economies (Hopper et al., 2009; Uddin & Hopper, 2001, 2003; Uddin & Tsamenyi, 2005). Extant work shows that the public sector management accounting systems in emerging economies, which are central to NPM reforms, have functioned more as ceremonial tokenism to obtain external legitimacy (Jayasinghe & Uddin, 2019). For instance, Jones and Sefiane (1992) observed a modest use of accounting information to support decision-making processes and control in four state-owned companies in Algeria. The authors stated that accounting was more a legal requirement to meet external authority controls than a key tool to achieve profit targets.

Similar observations were made by Alam (1997) when the author compared the budgetary processes in two state-owned organisations in Bangladesh. The findings of Alam (1997) suggest that the budget was used more to handle external relationships between the company and institutional actors than to support the management tasks. In studying Indonesian local governments, Mimba, Van Helden, and Tillema (2013) emphasise that the performance measurement systems in the public sector can serve merely as financial tools and can be obstacles in obtaining a broader view of the institutional circumstances. Mimba et al. (2013) argue that information produced through performance measurement systems are used more symbolically than functionally because of the lack of institutional control in less developed countries, enabling corrupt practices and inefficiencies to flourish in public organisations. Similarly, Iyoha and Oyerinde (2010) argue that there is a lack of accounting infrastructure and accountability practices in the management of public expenditure in Nigeria. For instance, the authors argue that budget planning in Nigeria and its effective

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3 implementation has become more of an annual ritual than a relevant tool to ensure integrity
4 in public expenditure.
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7 **Limited cases are** presented however, in the which the public sector management
8 accounting systems have served as a formal rational system **to articulate** long-term planning
9 and control **(Alawattage, Trevor, & Danture, 2007)**. The findings of CMC **illustrate** that the
10 accounting-budgeting-financial planning triad that prevails in the company has become
11 more of a management accounting tool than a legal requirement. The company has
12 developed a long-term financial planning approach through MAPs. This approach has been
13 underpinned by structural conditions such as the managerial autonomy of CMC, its early
14 application of accrual accounting and the pursuit of the accounting-budgeting-financial
15 planning triad. These structural conditions have enabled the company to meet the
16 requirements of multilateral development banks and embrace the reforms led by these
17 institutions.
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27 To conclude, our contributions in the paper are several-fold. Empirically, we have
28 explored the role of MAPs in shaping efficiency in the specific setting of CMC. Few
29 studies have investigated how MAPs are implicated in the construction of efficiency in
30 emerging economy contexts. We have responded to the call from Wickramasinghe and
31 Hopper (2005) by explicitly outlining an elaborated understanding of how culture, politics,
32 and historical factors are embedded in MAPs. Theoretically, we demonstrate how structure
33 and agency are embedded in shaping efficiency through MAPs in an emerging economy
34 context. Our study outlines the fact that MAPs have the ability to play an active role in the
35 process of reinforcing the perception of efficiency. In CMC, management accounting has
36 led to the detailed reporting of activities carried out by the organisation, the rigorous
37 control of resources exercised by the technostructure and the detailed monitoring of
38 performance, using the indicators prescribed by multilateral development banks.
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48 This research also contributes to the extension of ST. While the relevance of ST is
49 well-established in the academic field of management accounting research (Englund et al.,
50 2011; Macintosh & Scapens, 1990; Roberts & Scapens, 1985), limited research (exceptions
51 include the work by Conrad 2005 and Araújo and Cullen 2012) has drawn on ST to
52 illustrate how public sector utility services construct efficiency through the application of
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3 management accounting. ST has drawn criticisms for its lack of cross-referencing between
4 theory and empirical data (see Clark, 1990, cited in Lawrence *et al.*, 1997). This study
5 contributes to addressing this knowledge gap, delineating the empirical significance of ST
6 in emerging economy contexts. Last but not least, our paper provides evidence of how the
7 influence of the School of Mines, multilateral development banks and the technostructure
8 using MAPs have shaped efficiency as a corporate value in CMC; this issue **is** yet to be a
9 general feature of public organisations in emerging economies (Alawattage *et al.*, 2007; De
10 Araújo & Cullen, 2012; Iyoha & Oyerinde, 2010; Mimba *et al.*, 2013).

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18 Further studies covering other emerging economies are warranted so as to extend
19 our understanding of the interplay between the structure and agency and the manner in
20 which MAPs are implicated in this process to ensure efficiency. In terms of policy
21 implications, we have outlined the importance of putting into place institutional
22 arrangements prior to disseminating market-led reforms and MAPs in state enterprises.
23 Such institutional arrangements could include, amongst others, managerial autonomy, long-
24 term planning, and consolidation of a technostructure. CMC is perhaps a striking example
25 of how all such arrangements contribute to the intended use of MAPs in state-owned
26 enterprises, thereby enhancing efficiency in resource allocation and mobilisation.

33 34 Endnotes

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36 [1] The real name of the company has been changed to protect its identity.

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38 [2] The School of Mines was established in 1888 because of the high demand for
39 professional staff due to industrialisation in Colombia.

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41 [3] The name of the original city had to be changed in order to avoid confidentiality
42 problems.

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44 [4] In a letter sent in 1955, WB representatives explicitly stated that the loan approved to
45 the “Electricity Company” might be affected if this company was combined with the other
46 utility companies of water supply and telecommunications (Aristizábal *et al.*, 1988).

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48 [5] In 1970, before this CEO assumed the management of CMC, there was a period in its
49 history when its managerial autonomy was threatened. Representatives of a political party
50 called “The National Popular Alliance” had a majority control over the Council of
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3 Macondo and changed the composition of CMC's board of directors to include more
4 councillors. The new board of directors managed to have an effect on reducing the rates of
5 public services, thus motivating an institutional and financial crisis in the company (J.
6 López, 2006; Varela, 2011).
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