



THE APPROPRIATION OF MANAGEMENT CONTROL IN THE PUBLIC SECTOR IN CAMEROON

Crépain NKOLO EBENE

University Of Douala, Cameroon

Crepainnkolo@Yahoo.Fr

Henri WAMBA 

University Of Dschang, Cameroon

H_Wamba@Yahoo.Fr

Sabine Patricia MOUNGOU MBENDA

University of Yaounde II, Cameroon

mbendasabine@gmail.com

Abstract

Objective of the study is to assess the level of appropriation of management control within the Cameroonian public administration. For this, a questionnaire was administered to 212 actors in the PPBS chain (Planning, Programming, Budgeting and Monitoring-evaluation) in the central services of 38 ministerial portfolio departments. The data collected and coded in Excel and SPSS 25 was subjected to descriptive analysis. The results indicate that the Cameroonian public administration is effectively equipped with a management control system, through the tools put in place, some of which are highly used (ministerial charter, annual work plan, procurement plan (PPM), annual performance report, annual performance project and logical framework), others with a medium degree of use (management protocol, credit consumption plan, tables management, budgetary accounting, general accounting, interim activity report and operational internal control system) and the others with a low degree of use (performance contracts, analytical accounting, patrimonial accounting and accounting Management). This differential in the use of management tools actually illustrates a weak practice of management control by the actors.

Keywords: Management Control, Appropriation, Managerial Innovations, Public Administration, Cameroon



INTRODUCTION

For many years, reforms have been tested and implemented in most public organizations in OECD countries, although differences exist here and there depending on the country. Inspired by the private sector and articulated around what is known as "New Public Management" or "new public management", these reforms have justified a reconfiguration of the management of public affairs both from the point of view of values, formal frameworks, structures and tools (Fninou & Meyssonier, 2013). The logic of instrumentation, in particular, has established many management tools such as management by objective, results-based management (RBM), program budgeting, etc. and management control.

Like the OECD countries, the majority of African countries including Cameroon are also experiencing this situation. Indeed, since 2015, management control has been institutionalized in the Cameroonian public administration (APC), making this management tool a "central device" (to borrow from Berland and De Rongé (2011)) of Public Finance Management. For good reason, management control can be considered on the economic level as a set of tools making it possible to ensure the relevance of management choices or on the sociological level, as a means of ensuring the convergence of the individual actions of employees and the objectives of the company, particularly at a time when society is increasingly demanding transparency and accountability.

Several definitional approaches have been given to the concept of management control from a theoretical point of view. Management control is "a process by which managers obtain assurance that resources are obtained and used effectively and efficiently for the achievement of the organization's objectives" (Anthony, 1965, p. 17). In addition, management control is a tool for coordinating, judging and planning (Chandler, 1962). It includes systems and processes that guarantee consistency between strategy and concrete, daily actions (Bouquin, 2011).

The recent arrival of management control in the Cameroonian public administration positions it as a managerial innovation¹and therefore raises questions subsequent to its appropriation by public officials. On observation, the multiple experiences around the world in performance management demonstrate both high failure rates, but also relatively high differentials in the degree of implementation and mastery of these management systems, thereby legitimizing an analysis of factors influencing the dynamics of managerial innovation in public organizations (De Vaujany (2005), Rogers (2010) and Hanafi and El-Marzouki (2021)).

¹This is a managerial innovation within the meaning of the definitions and characteristics mentioned, in particular that of Gilbert (1998) who considers that a managerial innovation is a new combination of material and/or conceptual means that already exist and/or are new by relation to the state of the art of management at the time when it appears for the first time and which makes it possible to implement a management technique which can be perceived as more or less new by the individual or any unit of analysis considering it.

Moreover, the question relating to the appropriation of management tools and management control, in particular in the public sector, struggles in its quest to produce truly impressive knowledge. Indeed, if managerial innovations and modernization approaches through the introduction of management control are multiplying within the public administration, there are few studies that specifically analyze the appropriation of these approaches at the different stages of development. Their introduction and their implementation (decision of appropriation, appropriation and implementation, institutionalization, abandonment or replacement) and which, more generally, study the dynamics of change in public organizations (Fernandez and Rainey (2006), Carassus and Morin (2014) and Bousseta and Alami (2017)). The appropriation of management control in the public sector thus constitutes a relatively little explored field of research, which is generally based on case studies leading to inconclusive or partial results (De Vaujany (2005), Rogers (2010) and Hanafi and El-Marzouki (2021)).

Moreover, to our knowledge, very few studies analyze in a Cameroonian context, the appropriation of management control in the central administration. The few existing studies rather examine the effect of management control on the performance of public bodies. Avelé and Tachouola (2019) analyze the management control systems implemented to respond to the complexity and uncertainty that characterize the Cameroonian public hospital. Ngo Biheng, Djoutsa Wamba and Mama Onana (2020) evaluate the effect of the use of management control tools set up in decentralized territorial communities on their performance in Cameroon. Tchouassi and Nkabkob (2021) analyze the empirical relationship between the management control model and the level of performance of the Cameroonian public administration, and more specifically of the central administration.

Only one study to our knowledge deals with the appropriation of management control in the Cameroonian context. Mama Onana (2019) examines through his doctoral thesis the determinants of the appropriation of management control in Cameroonian municipalities. However, this study suffers from several limitations. It does not cover the entire Cameroonian public sector. It focuses solely on the appropriation of management control by the municipalities, not addressing the phenomenon at the level of the central administration. However, it is at this state level that management control was first introduced in Cameroon through Law No. 2007/006 of December 26, 2007 on the financial regime of the State to improve efficiency and efficiency of its public policies and to improve the quality of services provided to users. In addition, Mama Onana's study (2019) uses a qualitative approach based on case studies of 07 Cameroonian municipalities. This study deals with a small sample of public sector organizations and does not focus on hypothesis testing in the Cameroonian case. Thus, the objective of this

article is to assess the level of appropriation of management control within the Cameroonian public administration.

THEORETICAL AND CONCEPTUAL FRAMEWORK OF THE STUDY

In this section, we will first clarify the concept of appropriation, then we will conceptualize public management control and finally, we will present the theoretical models of appropriation of management control in public administration.

Management control: definitional approach

The concept of management control is relatively old in the literature on the management of organizations. This notion of control was born with the industrial revolution, it is imposed in the company during the application of the division of labor and the distribution of tasks. The old works of Fayol ((1918) and (1921)) already made control a constituent element of the administrative function. For Redslob (2013), the term management control has undergone the same evolution as that of management accounting, in other words, one cannot carry out management control without a real mastery of management accounting. The systematic implementation of a system for controlling the activities of each function has proven to be essential in guiding the company to achieve the planned objectives.

Thus, management control is used initially in any organization for the deployment of the strategy as well as its execution by all its members. Subsequently and under the influence of behavioral currents, modern management control extended beyond its traditional functions described as instrumental, to become a global tool for steering organizations (Chandler (1962), Anthony (1965), Anthony (1988), Book (1994), Simons (1994), Book (2010), Redslob (2013), Alcouffe, Berland and Levant (2003) and Amine, Rouggani and Lamchaouat (2017)). This last vision is privileged here, in order to present the definitions taken from the literature.

Definitions based on the concept of “tools” are the oldest. Thus, according to Chandler (1962, p. 21), management control is a tool for “coordinating, judging and planning”. As Alcouffe, Berlant and Levant point out (2003), management control, in its initial form, has a quantitative character based on budgetary control, cost accounting and reporting. This model has been adopted by American (Dupont de Nemours, General Motors), European and international companies. Its main features can be summarized as follows :

- **A financial measure of performance:**

The use of ROI (return on investment) ratios in management control originated with Dupont de Nemours and General Motors. ROI brings the operating result closer to the value of the assets used and is in fact an expression of the return on capital employed. This ratio is broken down

into several ratios to demonstrate that performance depends on both the level of results and capital turnover. In the spirit of traditional management control models, any decision must be made on the basis of this ratio, a rejection rate is defined below which no investment project is retained and a minimum rate is defined which allows assess the performance of different responsibility centres.

- **The existence of centers of responsibility:**

In order for the objectives of the organization to be achieved through the action of the decentralized units, it is not necessary to exercise finicky control over their daily tasks, but to delegate to them the necessary management authority in the form of specific goals. This delegation of authority requires organizing the company into centers of responsibility.

- **The need for planning :**

The planning process requires identifying different horizons: a long-term objective for strategic objectives, a medium-term horizon for identifying the means to be implemented and defining more tactical objectives, and finally a short-term horizon for the planning of concrete actions within the framework of the preparation of the annual budget.

- **The control loop :**

Management control is perceived as a self-regulated steering system that revolves around three phases:

- forecasting, which leads to the planning of objectives and resources at each level of responsibility;
- the achievements which are measured at regular intervals, and confronted with the forecast in order to highlight deviations;
- the corrective measures resulting from the gap analysis.

Other authors apprehend it from a processual perspective. For Anthony (1965, p. 17), management control can be defined as "the process by which managers obtain assurance that resources are obtained and used effectively and efficiently for the achievement of the organization's objectives". According to Khemakhem (1984, p. 23), "Management control is the process implemented within an economic entity to ensure effective and permanent mobilization of energies and resources in order to achieve the objective of this entity". Anthony (1988, p. 10) complements its 1965 definition by understanding management control as "*the process by which managers influence other members of the organization to implement organizational strategies*".

The process approach makes it possible to better place management control at the interface between the strategic and the operational. By using the notion of device, the definition

proposed by Bouquin (1994, p. 40) is denser. For this author: "It will be appropriate to call management control the devices and processes that guarantee the coherence between the strategy and the concrete and daily actions". For Abi Azar (2006, p. 30), management control is "a process which consists for the company in controlling its behavior by striving to anticipate events, to prepare for them with its team and to adapt to a changing situation". In the same vein, for Simons (1995, p. 21), "management control is the set of formal processes and procedures, built on the basis of information that managers use to maintain or modify certain configurations of the organization's activities". This definition is consistent with the establishment of a formal control system. The latter makes it possible to ensure that the strategy defined at the strategic summit is correctly applied by the actors of the organization. Among the four control levers presented by Simons (1995), diagnostic control systems and interactive control systems are similar to two management control systems with different characteristics.

More recently, management control has been placed at the heart of management. Book (2008) stipulates that management control in an extended perspective is an integral part of management in the broad sense of the organization from which it is inseparable. Thus, management control can be characterized "as a set of artifacts and processes, formal and informal, developed to influence the behavior of members of a structure, and produce information on processes and organizational performance" (p. 24). This definition was supplemented by the same author in 2010 who defines management control as "the set of devices on which managers rely to control the process of decisions-actions-results" (p. 27). In this context, one of the purposes of control is to model this process, in order to better define and understand the general objectives. Thus, management control is an organizational control whose five missions are listed by Bouquin (2010) and Arbaoui (2020):

- (1) ensure that the construction of action plans is consistent with the operational plan;
- (2) help managers choose the assumptions needed to implement action plans;
- (3) conduct a consolidation of plans to prepare for budget negotiations;
- (4) establish budgets on the basis of the plans adopted;
- (5) select criteria for measuring the performance of managers that will be consistent with those of management.

We place our work in line with authors who consider management control in its interface between the strategic component and the operational component, while serving as a support for the management of the organization. Thus, we define management control as being a complex process of managing the performance of the organization. It is therefore necessary to clarify the concept of appropriation.

Appropriation of management control: attempt to clarify the concept

The concept of appropriation is defined as the action of “making it suitable for use at a destination”. Appropriation is “a process of interpretation, negotiation and construction of meaning within which the actors’ question, elaborate and reinvent models of collective action” (Grimand, *Une analyse des blocages à l'appropriation des outils de gestion des ressources humaines : l'exemple du management des compétences*, 2007, p. 242).

From Vaujany (2005) proposes three perspectives on the question of appropriation: from a rational perspective, the management tool is a vector of rationalization; from a socio-political perspective, the management tool is a tool for valorization, rhetoric or influence, and from a psycho-cognitive perspective, the management tool is a learning medium, an affective object or an object of data processing. According to the same author, any management tool presents a certain instrumental and interpretative flexibility and this flexibility is the very condition of the process of appropriation. It is therefore necessary to take into consideration the interpretations and micro-strategies of the actors faced with the objects (De Certeau (1990) and Lorino (2002)).

According to Breton and Proulx (2002), three conditions must be met for there to be appropriation: a minimum of cognitive mastery of the object; a significant social integration of the use of the object in the daily life of the individual and the possibility of bringing out creation in the user. Appropriation therefore refers to the use, practices and daily life of actors in the field. On the individual level, it is a cognitive and behavioral process which corresponds to changes in knowledge and behavior induced by learning. The user, through his creative abilities and unforeseen uses, contributes to improving the tools. Appropriation is also a social process that takes place over time (2005, p. 32), “this phenomenon is evolving and is the culmination of a social and individual process of change in working practices”.

There are therefore not two completely disconnected phases in the life cycle of the tool, namely the design, then the adoption and the use, as presented by the theories of diffusion (Rogers, *Diffusion of innovations*, 1983) and those of adoption (Davis, 1989).

With regard to the appropriation of management tools, an overview of the literature shows that the process of appropriation of management tools is accompanied by activities such as adaptation to change, contextualization, problem solving and construction of meaning (Grimand, *Une analyse des blocages à l'appropriation des outils de gestion des ressources humaines : l'exemple du management des compétences*, 2007). Brillet, Hulin and Martineau (2010) distinguish between adoption and appropriation. They ask themselves, on the one hand, about the factors that push organizations to adopt a tool, and on the other hand, with regard to the factors that motivate actors to use this tool. For these authors, adoption represents a stage prior to appropriation and concerns “a decision to implement a tool, but not its actual

implementation" (Brillet , Hulin, & Martineau, 2010, p. 2). They indicate that appropriation constitutes "a process of implementing an innovation" and define it more precisely, as follows: "the effective and concrete implementation of a tool, by individuals, within 'an organization " (Brillet , Hulin, & Martineau, 2010, p. 2).

At the end of this brief reminder relating to the concept of appropriation, we conceive that the appropriation of a tool would be this personal will that the actor possesses to accept the use of a technical tool. Its acceptance would be justified firstly in the efforts made to understand the functioning of the tool made available to it without being constrained by a third party; then, in the transformation of the uses granted to this tool in order to use it (at one's will) according to the objectives to be achieved; finally, thanks to routines of use, the experience of use would lead the actor to multiple uses which would exceed or deviate from those recommended at the start of the design and would oblige him to develop other types of manipulations to satisfy its objectives and to benefit from them.

Theories and models of appropriation of managerial innovations

It is a question in this subsection of proposing the different theories and models of appropriation of management control as a managerial innovation.

Appropriation theories

Several theoretical postures were analyzed in the use of management tools. They focus on design for use (Lin & Cornford, 2000), design in use (Bourmaud & Rétaux, 2002) and the appropriation of management tools (De Vaujany (2005) and De Vaujany and Grimand (2005)).

Design theory for the use of management tools

From this reading, it is understood that the design of a management tool is consubstantial with its use since for the actors, it is through learning, conflicts related to its mastery and the autonomy-control dialectic that the tool takes shape. The appropriation process then evolves in a field of opportunities that leads the organizational collective to think about a transformation of trajectories. However, it should be recognized that the process is constrained by a certain intrinsic materiality linked to the tool by its technical substrate (Ciborra (1999), Orlikowski (2000), Lin and Cornford (2000) and Grimand and Bachelard (2005)).

The tool is therefore a memory trace (Giddens, 1984) or a property of the structural instantiated by handlers. It appears that the tool and its technical substrate have no exteriority in relation to the members of the organization, the only thing that matters is the socio-cognitive scheme associated with the tool, which has no materiality in social action.

This vision of the appropriation process is close to structurationist works (Giddens (1979) and Giddens (1984)) according to which uses and management tools are inseparable and merged into sorts of socio-cognitive schemes. Therefore, the use of management tools is an instantiation of the properties of the structural.

The theory of the implementation of management tools

This approach highlights in the process of appropriation, the interaction between the actors and the tools through a vast interactive process which engages reciprocal prescriptions. (Hatchuel, Les théories de la conception, 1996). This approach is based on the incompleteness of the management tools through the unrealistic nature of the hypotheses of rationality integrated into the management tools and recommends taking into account, in the process of appropriation, the systems of local rationalities in interaction that constitute the organizations (Moisdon (1997) and Grimand (2012)).

In this approach, the tool finds what it does not have in the design for use and in particular the exteriority. The tool is then a routine registered in a role system and an artefact (Lorino, 2002) which corresponds to its interaction conditioning context (Archer (1995) and Nobre and Zawadzki (2015)).

Ultimately, to follow up on the incompleteness of the management tools, the actors will establish learnings that will make appropriation a recursive and continuous process that will take place in two distinct phases. In the first phase, the tool is designed and appropriated by several actors who form it, deform it and interpret it. In a second phase, the users of the first phase become designers of the tool for a new group of actors who reappropriate the reconstructed tool in a prescriber-operator role play. This is the cycle of reciprocal prescriptions which makes it possible to contextualize the tool through reciprocal exchanges and to appropriate it in the long term at the operational level (Aggeri & Hatchuel, 1997).

This second theoretical approach is compatible with realist and critical research which values, in appropriation, a process of transformation-reproduction of the social based on a morphogenetic cycle integrating a dialogue between structures and action (Bhaskar (1989), Archer, Bhaskar, Collier, Lawson and Norrie (1998) and Nobre and Zawadzki (2015)).

The axiomatic theory of appropriation

Theoretical frameworks relating to management tools have undergone an evolution in their vision, resulting from their strong proliferation since the 19th century (Chandler (1977) and Lorino and Teulier (2005)). This development has the corollary of shifting management tools from a representationist vision (Lorino (2002), Vernant (2004) and Lorino (2005)) to a socio-

cognitive vision that considers management tools as a set of instruments leading to learning through uses (Bansler, Damsgaard, Scheepers, & Havn, 2000), which today justifies the appropriative perspective of management tools. This new trend, which no longer limits the tool to the representation of reality or to the rationality of the actors, proposes to go beyond the traditional opposition between design and use (Rabardel (1995), Beguin and Rabardel (2000), Lin and Cornford (2000), Lorino (2002), De Vaujany and Grimand (2005), Lorino and Teulier (2005), Rabardel and Pastré (2005), Nieto-Bru (2009) and Arbaoui and Oubouali (2020)).

The appropriative approach is underpinned by the change in the context of the evolution of organizations that experience spatio-temporal dilation (Torres, 2000) which can be explained by several factors including the appearance of new accounting rules, the development of integrated management software packages, the creation of new skills assessment techniques, permanent change projects. There then appears a globalization of the institutional production system of management objects and tools which gives them transnational status (De Vaujany, 2006).

The Neo-Institutional Theory (NIT) and the appropriation of management control in public organizations

Management control has long been analyzed through the prism of contingency theory. NIT brings a renewal by basing the study of the survival of public organizations on the quest for legitimacy. This gives a place to the appropriation of management control in terms of isomorphism and mimicry.

The development of management control in organizations has mainly been theorized under the prism of contingency (Otley (1978), Merchant (1981) and Gordon and Narayanan (1984)). This theory stemming from the work of Burns and Stalker (1961) and of Lawrence and Lorsch (1967), later became the most popular approach to designing control systems (Dent , 1990) through the contingency factors which are: the uncertainty of the environment, the complexity of the technology, the level of decentralization, the strategy pursued as well as the size (Sponem, 2006). The theory of contingency which asserts that there is not a universal management control system applicable to all situations since the accounting choices as well as the choices of management control techniques depend on the environmental circumstances of the organizations studied (Otley, 1999).

Faced with this dominant approach, the TNI provides an alternative that makes it possible to structure not only the management control function, but also the job of the management controller, since organizations now face a constraint of legitimacy (Meyer and Rowan (1977) and Suchman (1995)) which obliges them to align the technical dimension of

their activities with the systems of beliefs of institutional origin (Scott, 2003). Therefore, the TNI highlights the role of stakeholders in organizational analysis through power games or the interests of actors that go beyond the instrumental rational approach of management tools (Scott, 1987).

NIT, which has greatly contributed to the understanding of control systems and emerging management control practices (Covaleski and Dirsmith (1983), Covaleski and Dirsmith (1988), Covaleski, Dirsmith and Samuel (1996), Hock and Hopper (1997), Chu, Rask and Gottschang (1998), Ribeiro and Scapens (2006), Nieto-Bru (2009) and Mittal and Lochan (2015)), makes an essential contribution to the role of management control through the routine behaviors that are observed in the institutional work of the organization and which determine the choices in terms of control methods (Hofstede, 1981).

In the specific case of organizations evaluated on political bases, managers generally set up basic control systems out of conformity to environmental constraints to the detriment of a real managerial will (Hoque and Hopper (1997) and Bonneveux and Soparnot (2016)).

This explanation shows that the CG in force in the organizations does not only help in the rational decision of the leaders but, constitutes a process which can give rise to the illusion of rationality with the internal and external partners of the public organizations.

Models of appropriation of managerial innovations

On the theoretical level, six dominant models make it possible to assess the level of appropriation of management control by an organization. These are the Michel model, the Anthony model, the Nolan model, the Burlaud and Malo model, the Quantum and Hronec model, the Cash model. The assumptions of each model as well as the contributions and limitations are presented in the following lines.

Michel's model (1983)

This model corresponds to a conception of the evolution of the management control system linked to the size of the organization in terms of the adoption of tools, procedures, results monitoring indicators and performance monitoring indicators. Eight phases characterize, according to this model, the evolution of management control:

- Phase 0: practice of legal accounting at the strict level of regulations.
- Phase 1: static monitoring of overall results based on an accounting control whose links are punctuated by financial forecasts, the acceleration of accounting processing and a basic administrative organization.

- Phase 2: static monitoring of global and analytical results from more advanced accounting control based on global forecasts, analytical accounting, cost centers, dashboards on objectives and an organization structured on processes administrative.
- Phase 3: dynamic monitoring of the achievement of objectives based on budget control based on monthly budgets, monthly forecasts, provisional analytical accounting, profit centers, dashboards detecting deviations, a monthly account and an organization structured on administrative and management procedures.
- Phase 4: dynamic monitoring of the achievement of objectives based on budgetary control based on an overall financial strategic plan, the overall integration of budgets into the strategic plan, the existence of investment centers and operational commitment accounting.
- Phase 5: dynamic monitoring of the achievement of objectives based on management control based on an extension of the budget process, an operational plan, strategic planning, a financial strategic plan, an operational plan, accounting forecast analytics, action plan indicators on dashboards and administrative and management procedures.
- Phase 6: integrated monitoring of the achievement of objectives based on management control based on temporal concordance of consolidated forecast monitoring, formalization of operational planning and strategic planning procedures, implementation in an operational plan, provisional cost accounting, action plan indicators on the dashboards and administrative and management procedures.
- Phase 7: integrated monitoring of the achievement of objectives based on management control based on formal integration of results monitoring with forecasts, temporal concordance of consolidated forecast monitoring, a formalized operational plan, a formalized strategy, a breakdown into an operational plan, provisional cost accounting, action plan indicators on the dashboards and administrative and management procedures.
- Phase 8: integrated monitoring of the achievement of self-determined objectives based on management control based on formal integration of the monitoring of results with forecasts, temporal concordance of monitoring of consolidated forecasts, a formalized operational plan, a formalized strategic plan, a breakdown into an operational plan, provisional cost accounting, action plan indicators on the dashboards, administrative and management procedures as well as integrated forecast monitoring that standardizes behavior.

Michel's model, which takes into account the gradual evolution of management control based on its value shared by the various actors, shows that budgetary control, just like internal control through administrative procedures, are prerequisites for the development of control of management in public organizations. It also has the limit of being mechanistic or deterministic because it consists of phases that evolve according to the size of the organization without indicating the triggers for the implementation of management control.

Anthony's model (1988)

It is a staged model of management control suitable for organizations that do not automatically seek profit. Indeed, the use of management control in these organizations is justified by situations of financial crisis, size or technology.

The introduction of management control is done in two ways, one in stages and the other by pilot units before generalization to the entire organization. This model, which has the advantage of adapting to public organizations by specifying the origin of the triggering of management control, is limited in the sense that it does not specify the role of the actors and does not include the characteristics specific to public organizations.

The Nolan model (1979)

It is a step-by-step model that makes the evolution over time of management control depend on the development of the IT department thanks to "Enterprise Resource Planning" (ERP) which in turn is linked to the size of the organization. Thus, the diffusion of management control is done by contagion to the entire organization after the IT department. Strong IT development will lead to Nolan's increased need for management control, which begins by being used in IT departments before spreading throughout the organization. This model has the limitation of not taking into account the role of the actors.

The Burlaud and Malo model (1988)

It corresponds to a model of use of management control according to the complexity of organizations which is justified by the general theory of systems. Indeed, complex organizations do not make the same use of management control as non-complex organizations, even if the tools are similar. The factors or variables which determine this use of management control are related to the size, the number of objectives, the clear or unclear definition of the objectives, the technology, the characteristics of the production function, the degree of difficulty in assess the costs. It follows that in a non-complex organization qualified as simple, management control has

a direct role on the behavior of the actors, hence the sequence "Cost analysis - Management control - Action".

This model makes it possible to put into perspective the problem of the absence of incentives generally raised during the transposition of the elements of private management into the public sphere. It enshrines the fundamental element provided by management control in the public sector, namely the cultural change in the processes of transformation of results-oriented management models. This model has the limitation of not highlighting the factors of adoption of management control.

The "vital signs" model or Hronec's Quantum model (1995)

This model makes it possible, from a proactive approach of defining management indicators called "vital signs", to achieve the overall performance called "quantum" in terms of cost, quality and time according to a seven-step approach including: determining strategy that may be influenced by management, stakeholders, the environment, or benchmarking best practices; the determination of the means of animation of the strategy called catalysts which can take the form of training, communication or rewards; determination of processes; the classification of the processes identified according to three main families including the primary processes, the logistics processes and the management processes; determination of the most important processes and implementation of the ABC method, process analysis to focus attention only on important activities; continuous improvement which allows management control to act on strategy thanks to the renewal of objectives and their adaptation to strategy.

The contribution of this model is multiple. It recognizes that management plays a leading role in the adoption and implementation of management control either by rupture or incrementally; it takes benchmarking into account as a factor in disseminating management control; it recognizes that training and communication play an important role in the development of management control; it takes into account the non-financial aspects of management control and in particular the physical aspects related to quality and the temporal aspects related to deadlines. It has the limit of neglecting the characteristics of the public sector.

The information systems evolution model or Cash model (1992)

The Cash model describes the introduction of management control in four stages: initiation or the first limited implementation, the animation of which through training and seminars facilitates assimilation by the actors; the adaptation-expansion that results from the

encouraging results of the initiation phase and allows adaptation to unforeseen situations; rationalization-control, which makes it possible to adopt procedures to regulate the use of new locations; maturity-transfer which, thanks to the effect of experience, makes it possible to transfer the use to other organizations.

The contribution of the model is plural. It highlights the need to assimilate management control in order to implement change, which can be a source of questioning the balance of powers, a source of anxiety or a source of modification of the conditions of control. It shows that the use of animation mechanisms is differentiated according to the phases of the implementation, it also establishes that the development of management control by service is done by contagion effect and attaches importance to the procedures to make routine the new system. Its limits relate to the fact that it does not take into account certain determinants of the implementation of management control such as power games or the external environment.

METHODOLOGY

Research design

The study adopted a descriptive research design.

Sampling

The data used come from a survey by questionnaires administered to 212 stakeholders in the PPBS chain, selected within 38 ministerial portfolio departments (Table 1). This number is obtained following a multi-stage sampling procedure, combining a convenience approach and a sample size calculation method. It therefore combines the requirements of the probabilistic method and those of the non-probabilistic method.

The approach consists of identifying and selecting primary sampling units (PSUs) called clusters at the first stage. These represent the ministerial departments with a portfolio within which all the levels of the PBBS chain are retained: these are the secondary sampling units (USE) obtained at the second level. Finally, within each USE an additional selection of tertiary sampling units (UTE) is carried out for convenience to constitute the participants in the survey.

The target population of the PPBS channel is estimated at 312 workers. Using the sample size calculation method proposed by Rea et al. (1997), we obtain a significant sample of 212 respondents, with a sampling error of 5%, a confidence interval of 99% and an expected proportion of response from the population estimated at 50% (default value to obtain the largest sample possible).

Table: 1: List of ministries with portfolio of the study sample

Sector	Ministries
Sovereignty	1. Ministry of Justice; 2. Ministry of External Relations; 3. Supreme State Control.
Public health	4. Ministry of Health.
Production and Trade	5. Ministry of Commerce; 6. Ministry of Tourism and Recreation; 7. Ministry of Forests and Wildlife; 8. Ministry of Small and Medium Enterprises, Social Economy and Handicrafts; 9. Ministry of Agriculture and Rural Development; 10. Ministry of Fisheries and Animal Industries; 11. Ministry of the Environment, Nature Protection and Sustainable Development; 12. Ministry of Mines and Technological Development.
Social Affairs and Employment	13. Ministry of Employment and Vocational Training; 14. Ministry of Social Affairs; 15. Ministry for the Promotion of Women and the Family; 16. Ministry of Labor and Social Security.
Infrastructure	17. Ministry of Water and Energy; 18. Ministry of Public Works; 19. Ministry of Estates, Cadastre and Land Affairs; 20. Ministry of Housing and Urban Development; 21. Ministry of Posts and Telecommunications; 22. Department of Transportation.
Education, Training and Research	23. Ministry of Basic Education; 24. Ministry of Higher Education; 25. Ministry of Scientific Research and Innovation; 26. Ministry of Secondary Education.
Communication, Culture, Leisure and Sport	27. Ministry of Culture; 28. Ministry of Sports and Physical Education; 29. Ministry of Communication; 30. Ministry of Youth and Civic Education.
General and Financial Administration	31. Ministry of Finance; 32. Ministry of Economy, Planning and Regional Development; 33. Ministry of Civil Service and Administrative Reform; 34. Ministry of Public Procurement; 35. Ministry of Territorial Administration; 36. Ministry of Decentralization and Local Development.
Defense and Security	37. Ministry of Defence; 38. General Delegation for National Security

Source: Authors' compilation

Measurement of variables

The variables of the appropriation model that is tested are all assessed on five-position Likert modalities and codified under SPSS 25. The measurement indicators adopted (table 2) are inspired by the work of Carricano, Poujol and Bertrandias (2010).

Table 2: Operationalization of the variables studied

Analysis level	Dimensions	Indicators
Ownership of management control	Deployment of the management control system	- Existence of an operational management control system
		- Existence of a management dialogue mechanism
	Deployment of actors responsible for steering management control	- Existence of a program manager
		- Existence of an action manager
- Existence of an activity manager		
Management control practices		- Existence of a task manager
		- Existence of a named management controller
		- Preparation of a report on the implementation status of the program
		- Dashboard design
Deployment of management tools		- Follow-up of the actions decided upon within the framework of the management dialogue
		- Dissemination of good management practices
		- Preparation of the Annual Performance Report
		Ministerial Charter
		Management protocol
		Performance contracts
		Annual Work Plan
		Procurement Plan (PPM)
		Credit Consumption Plan
		Dashboards
		Annual Performance Report
		Cost accounting
		Budget accounting
		Patrimonial accounting
General Accounting		
Management accounting		
Annual Performance Project		
Logical context		
Interim activity report		
Operational internal control system		

Source: Authors' compilation

Data processing

For this study, the statistical problem identified relates to an objective of counting the numbers to which the descriptive statistical analysis, univariate or bivariate, intends to respond. We wish to identify, within a set of predetermined elements, those which meet the massive consent of a homogeneous population from the point of view of a given characteristic, the one whose recurrence or not we want to explain (Glèlè Kakai & Kokode, 2004).

From the descriptive point of view, the usual statistical processing can be summed up in counting operations, qualified as simple or crossed flat sorting. These can take various forms such as graphical representations. Indicators of central tendency and dispersion are also favored to produce summary information on important distributions.

ANALYSIS AND RESULTS

State of play of the implementation of the management control system in the ministerial departments in Cameroon

The analysis of the opinions of the respondents of the survey leads to the observation that the ministerial departments with portfolio in Cameroon are equipped with a system for steering management control.

Indeed, overall, it appears that management control is a reality for the individuals interviewed. The results that justify this statement are summarized in Table 3. It can be seen that 88.2% of the sample affirm the existence of an operational management control mechanism within their administration. In addition, 77.4% also consider that their administration has a management dialogue mechanism. Based on these two indicators, we can assume that the deployment of the management control system has reached an acceptable level.

The results also indicate that all the ministerial portfolio departments in Cameroon have appointed officials responsible for leading management control. In this regard, 98.1% of respondents believe that their administration has program managers; 90.1% of individuals questioned believe that their administration has action managers; 67.4% of respondents think that their administration has activity managers; 42.5% of respondents believe that their administration has task managers. Finally, 87.8% of respondents consider that their ministerial departments have management controllers.

However, the results indicate very unfavorable opinions (42.5%) on the appointment of task managers. These opinions are distinguished by :

- A response average close to the value 3;
- A median equal to the value 3.

In this case, the systematic reference to the value 3 reveals the predominance of attitudes of neutrality (no opinion). Notwithstanding this handicap, it is logical to recognize that the deployment of the actors responsible for steering management control reflects an acceptable level.

Table 3: Statistics on the appropriation of management control

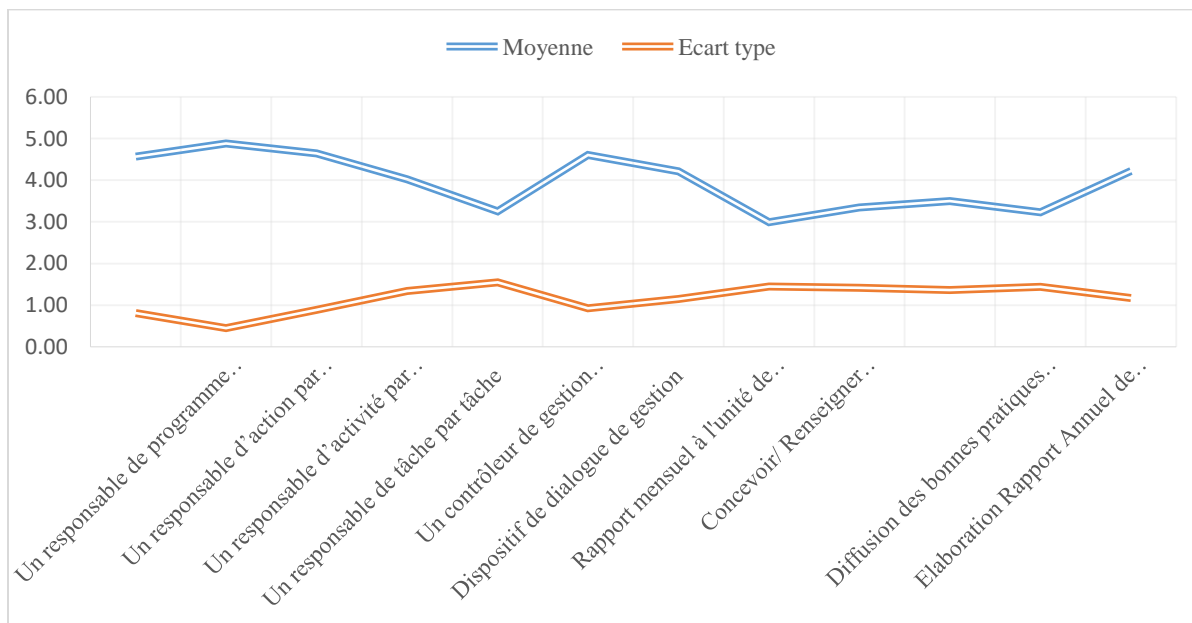
		Existence of operational management control system	One program manager per program	An action-by-action manager	One activity manager per activity	One task manager per task	A management controller appointed by program	Existence of management dialogue mechanism	Monthly report to the monitoring unit for coordination of management control	Design/Regularly update the dashboard	Follow-up of the actions decided upon within the framework of the management	Dissemination of good program management practices	Preparation of the Annual Performance Report (RAP) of the program
NOT	Valid	206	211	208	207	202	207	209	208	208	208	208	207
	Missing	6	1	4	5	10	5	3	4	4	4	4	5
	Mean	4.56	4.88	4.64	4.02	3.25	4.60	4.21	3.00	3.35	3.50	3.23	4.22
	Median	5.00	5.00	5.00	5.00	3.00	5.00	5.00	3.00	4.00	4.00	3.00	5.00
	Fashion	5	5	5	5	5	5	5	5	5	5	5	5
	In favor of appropriation (4+5)	88.2 %	98.1 %	90.1 %	67.4 %	42.5 %	87.8 %	77.4 %	35.4 %	50.5 %	56.1 %	47.1 %	80.2 %
	Range (interval)	4	4	4	4	4	4	4	4	4	4	4	4
	Minimum	1	1	1	1	1	1	1	1	1	1	1	1
	Maximum	5	5	5	5	5	5	5	5	5	5	5	5
	Standard deviation	0.81	0.45	0.89	1.34	1.55	0.92	1.15	1.45	1.42	1.37	1.44	1.17

These first two levels of analysis (the deployment of the management control system and the actors responsible for its management) show that the opinions relating to appropriation do indeed have two common characteristics:

- The average of the responses is greater than the value 4 or tends towards the value 5;
- The median is equal to the value 5.

The reference to the value 5 evokes the highest degree of attitude, ie “totally agree”. Chart 1 below shows the evolution of trends between the mean and the standard deviation.

Chart 1: Variation in the levels of implementation of management control



As far as management control practices are concerned, the observed reality is far from being credited with the appropriation of management control. With the exception of the practice relating to the preparation of the Annual Performance Report (RAP) of the program which records a degree of agreement of 80.2%, with an average higher than 4 and a median equal to 5, the others practices do not seem to be a priority for the respondents. This is the case of the preparation of the monthly report to the monitoring unit for the coordination of management control, the dissemination of good program management practices, the design and regular information of the dashboard and monitoring actions decided upon within the framework of the management dialogue, respectively practiced at 35.4%, 47.1%, 50.5% and 56.1%.

- A response average close to the value 3;
- A median combining the values 3 and 4.

The frequent link to the value 3 reflects the predominance of neutral opinions (without opinion) which do not benefit the appropriation of management control.

From graph 1, a dual reasoning emerges by bringing the mean values closer to their respective standard deviations. The variation in the mean values reflects an opposite variation in the standard deviation values. This assumes that the high levels of implementation of management control systems tend to homogenize the population studied. Conversely, the low

levels of implementation of management control systems tend to heterogenize the respondents. Thus, when implementation is strong, respondents are less divided or more united; whereas when the implementation of the management control system is weak, the respondents are more divided or less united.

Management control tools used in public administration in Cameroon

The information collected from the actors of the PPBS chain makes it possible to observe that the use of management control tools presents very varied levels. From the indicators in Table 4, we establish the following categorization:

Tools with a high degree of use: these are the Ministerial Charter (78.8%), the Annual Work Plan (86.3%), the Procurement Plan (PPM) (80.2%), Annual Performance Report (87.,3%), of the Project Annual Performance (82.1%) and the Logical Framework (75.5%). They are characterized by:

- An average of the responses is less than the value 5;
- A median is equal to the value 5.

The reference to the value 5 reflects the highest degree of agreement, ie “totally agree”.

Medium Duty Tools: this is the Management Protocol (65.1%), the Credit Consumption Plan (66.5%), the Dashboards (60.3%), the Budgetary Accounting (49.5%), general accounting (51%), the interim activity report (60.8%) and the operational internal control system (59.9%).

They are characterized by :

- An average of the answers lower than the value 4 or which tends towards the value 4;
- A median equal to the value 4.

The reference to the value 4 indicates a lower level of agreement with the few attitudes of neutrality that emanate from the average values.

Tools with low degree of use: these are performance contracts (39.7%), cost accounting (38.2%), asset accounting (43%) and management accounting (44.3%). They are characterized by:

- A response average close to the value 3;
- A median equal to the value 3.

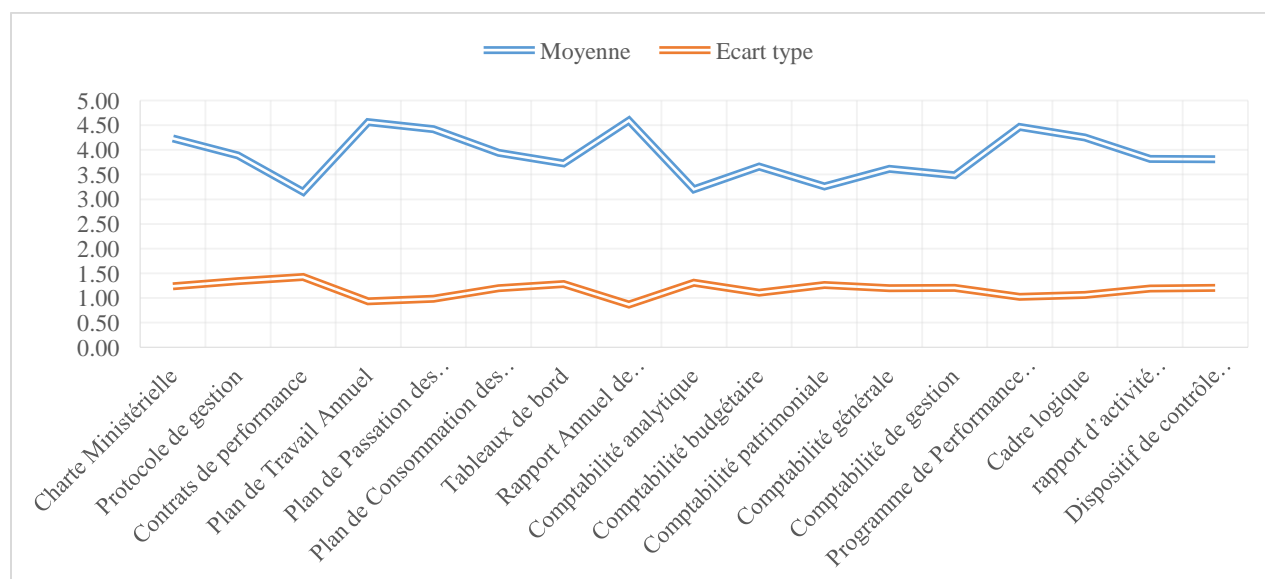
The systematic reference to the value 3 reflects the predominance of attitudes of neutrality (without opinion), unfavorable or unfavorable to the actual use of the management control tools concerned.

Table 4: Management control tools used in the Cameroonian public administration

	Ministerial Charter	Management protocol	Performance contracts	Annual Work Plan	Procurement Plan (PPM)	Credit Consumption Plan	Dashboards	Annual Performance Report	Cost accounting	Budget accounting	Patrimonial accounting	General Accounting	Management accounting	Annual Performance Program	Logical context	interim activity report	Operational internal control system
NOT Valid	210	211	205	209	208	208	210	210	202	196	206	207	190	210	209	207	208
Missing	2	1	7	3	4	4	2	2	10	16	6	5	22	2	3	5	4
Mean	4.23	3.89	3.15	4.56	4.42	3.94	3.73	4.60	3.20	3.66	3.26	3.62	3.48	4.47	4.25	3.82	3.81
Median	5.0	4.0	3.0	5.0	5.0	4.0	4.0	5.0	3.0	4.0	3.0	4.0	3.0	5.0	5.0	4.0	4.00
Fashion	5	5	3	5	5	5	5	5	3	3	3	3	3	5	5	5	5
Favorable to use (4+5)	78.8 %	65.1 %	39.7 %	86.3 %	80.2 %	66.5 %	60.3 %	87.3 %	38.2 %	49.5 %	43%	51%	44.3 %	82.1 %	75.5 %	60.8 %	59.9 %
Standard deviation	1.23	1.34	1.43	.93	.98	1.20	1.28	.87	1.31	1.10	1.26	1.20	1.21	1.02	1.06	1.19	1.20

The moving trends of the mean and standard deviation are best visualized in Chart 2.

Chart 2: Variation in levels of use of management control tools



The Chart 2 highlights an important trend when we compare the average values and their respective standard deviations. Note that the variation of the mean values reflects the opposite variation of the standard deviation values. In other words, the high levels of use of management control tools tend to homogenize the population studied. Conversely, the low levels of use of management control tools tend to heterogenize the respondents. Thus, when the use of a tool is strong, the respondents are less divided or more united; while when tool use is low, respondents are more divided or less united.

An insufficient practice of management control

The appropriation of management control presents slightly variable levels according to the management practices considered. In general, we can conclude that management control is far from being a reality for the individuals questioned insofar as a large part of the participants disapproves of the effective implementation of these practices.

Overall, the situation described above remains very mixed. It is far from expressing a feeling of overall satisfaction with regard to the current level of ownership of management control.

CONCLUSION

The objective of this article was to assess the level (capacity of appropriation) of management control by actors in public administration, based on the specific case of Cameroon. To do this, on the one hand, we have explored in the literature the levers making it possible to set up management control systems in public administration. And on the other hand, presented the results of the empirical analysis of the appropriation of management control in public administrations in Cameroon. Thus, it appeared that appropriation is a process of interpretation, negotiation and construction of meaning within which the actors question, elaborate and reinvent the models of collective action. Otherwise, there are several theoretical postures allowing an analysis of the use of management control within the public administration. They relate in particular to the design for use (Lin & Cornford, 2000), design in use (Bourmaud & Rétaux, 2002) and the appropriation of management tools (De Vaujany (2005) and De Vaujany and Grimand (2005)). Regarding the appropriation of management control in the Cameroonian public administration, the descriptive analysis made from the information collected from 212 actors of the PPBS chain in 38 ministerial departments with portfolio in Cameroon reveals that the Cameroonian public administration is equipped with a management control system but that, on the other hand, its practice by the actors remains very weak. Therefore, future research should strive to identify the factors likely to promote the appropriation of

management control tools at the different stages of their introduction and implementation in the specific context of public administration in Cameroon.

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