

Obstacles to the Implementation of Management Control in Public Institutions

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Summary

Management control is a recognized function within the framework of the governmental authorization of public management, and has been subject to a reform concerning all aspects related to the service of economic agents and the Moroccan citizens.

In effect the introduction of the law concerning the governance and financial control of public institutions will be based on a process of restructuring and performance management. It is in this context that the implementation of management control in the public sector should be adapted to the conditions and the various economic and social developments.

Hence the major issue addressed in this article entitled *Obstacles to the implementation of management control in public institutions* pertains to identifying the obstacles to the implementation of management control within public institutions. This attempt suggests that the article should focus in the first part on a theoretical analysis of management control practices in public institutions. The second part will be dedicated to an empirical study using a questionnaire based on a representative sample of public institutions operating in the economic and social fields, through a Multiple Correspondence Analysis

(ACM), by the statistical software Statistical Package for the Social Sciences (SPSS).

Keywords: Management Control, Governance, Public Institutions, ACM

JEL Classification: O32, G34, L32, G35

1. Introduction

The introduction of management control in the public sector is a pioneering experience with regard to promoting transparency and accountability at all levels of public administration. In any organization, management control is used for the development of the strategy and its implementation by all its members. Influenced by Behavioral currents, modern management control has expanded beyond its traditional functions described as instrumental and has become a global tool of management of organizations. Several authors share this assumption.

In fact management control is a "control system implemented by the head of a unit or a program to improve the relationship between the means employed, the activity developed and the results achieved, including through accounting tools or statistics". It was jointly developed by the administration to incorporate new public management practices inspired by foreign examples.

The task is to establish the management control culture that appears as an indispensable and relevant tool in the overall performance of civil service. However, its public nature, the multiplicity of its missions and functions and its wide field of intervention require an adaptation and a fine selection of

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the management control tools to be used by providing assistance in terms of support and management dialogue. Now it should be an obligatory dimension of piloting. Performance management is based on a good understanding and use of management mechanisms such as budgets, cost accounting and dashboards.

The weight of the Moroccan administration, albeit insignificant compared to other countries with comparable development, faces a major setback that pertains to a large public payroll representing 10% of GDP in 2016 (level among the highest in the world). In order to overcome this public expenditure management crisis, the country had to draw lessons from other successful experiences.

Among the main lessons learned are the completion and finalization of the reforms undertaken, the relief of legal burden and the elimination of duplication, the easing of administrative structures and the simplification of procedures, the introduction and use of new budgetary and accounting techniques derived from private management (dashboards, performance indicators, among other lessons).

The Moroccan government has thus embarked on a reform aimed at the modernization of the public sector. The main objectives have been set as follows: "Build an efficient sector, tightened on its essential missions, endowed with resources that meet its real needs, and constantly listening to its environment, and provide a quality public service at the least cost¹."

In the field of public institutions, the recent major political developments that we have faced are those that are part of the New Public Management (NPM) movement. The latter was defined by Hood² as "the broadly similar administrative doctrine that has dominated the bureaucratic reform agenda in many OECD member countries since the 1970s". The main idea of NPM is that private sector

management methods can be transposed to the public sector. The latter is considered to be inefficient, excessively bureaucratic, rigid, costly, too centered on its own development, non-innovative and having too centralized a hierarchy.

Hence, to improve it, it is necessary to increase the room for maneuver so that managers are able to better respond at the lowest cost, meeting public expectations. The latter are now treated as *clients* while the directors become real managers. This conception of the public sector particularly the administration rests on the three pillars "*Economy, Efficiency, and Effectiveness*".

In the case of Morocco, our research field, the actions and efforts taken in this direction are constantly increasing, and the country has expressed its great interest to be in tune with the developed countries in terms of governance and management control.

In particular, with the implementation of the Moroccan public administration reform, public institutions embarked on a process of restructuring and result-based management. Given the importance of the sector³, Morocco aspires to modernizing it so that it absorbs the culture and the practice of consultation and contracting in setting objectives, drafting programs and plans and raising the necessary funds for their implementation.

Modernization, performance and management control are three interacting dimensions. In other words, modernization simply implies the quest for performance, which can only be achieved with the implementation of a system and effective management control. Moreover, management control is a tool of performance of organizations and, for a few years has begun to gain foothold in the Moroccan public institutions.

Consequently, **the general problem can be formulated as follows: What are the**

¹ Administrative Reform in Morocco, 2001, p.4

² Christopher Hood, a public management for all seasons, Public Administration Vol. 69 Spring, 1991.

³ A public portfolio of 256 EEP according to the report on the Establishments and Public Enterprises for the budget year 2016.

different barriers to the implementation of Management Control in Moroccan Public Institutions?

2. Theoretical framework

This study is based on the agency theory developed by the neoclassical school, which is the dominant theoretical perspective in terms of the microeconomic analysis of the enterprise. Jensen and Meckling theory define an agency relationship as a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent. If both parties to the relationship are utility maximizers, there is good reason to believe that the agent will not always act in the best interests of the principal⁴.

This theory helps explain the practice and the types of contracts that optimize the relationship between the agent (who is delegated powers) and the principal (the one who delegates powers). The agency theory rests on the assumption of conflict of interest between the agent and the principal. This conflict arises from the fact that each party seeks to maximize its own utility at the expense of the other.

In the public sector, the contractual approach can take the form of a mutual undertaking, that is to say, the rights and obligations of each party are determined by the contract or a binding agreement between several people who reach an agreement on the achievement of a common goal. Presumably the contractual approach is used in government agencies as agents of accountability factor.

The responsibility often takes the form of a contract that specifies the rules of the game:

who is responsible? What is responsible? What degree of autonomy? What goals does it achieve? What resources does it rely on? It is by knowing the nature of the contract and the contracting parties that who is accountable to whom can be determined. In other words, what are the control methods provided in such contract to ensure the achievement of results?

According to the agency theory of Jensen and Meckling, property features include an adjudicative function and a control function. The delegation of decision-making function of the shareholders⁵ compared to the leaders is often a source of conflict. The control in this context is equivalent to measure: measure the gap between results and objectives. All levels need monitoring: managers use it to exercise their management autonomy and the center uses the monitoring and control to implement the accountability and make informed future decisions.

3. Institutional and regulatory framework

Management control is an indispensable steering instrument to meet the day-to-day concerns of decision makers. The importance of this function extends to both the banking and financial sectors and the industrial and service sectors. The public administration also has been harboring tremendous enthusiasm for this management system, particularly in Europe and the United States. In Morocco, the presence of a management control function remains limited to certain categories of companies, mainly banks and big companies. However, the challenges faced by the company in the context of globalization require a redesign of its management, in particular the introduction of management through management control. Indispensable in normal

⁴ Michael C. Jensen, William H. Meckling, Theory of the firm: Managerial behavior, agency costs and ownership structure, *Journal Financial Economics*, Volume 3, Issue 4, October 1976.

⁵ A person who owns shares in a company and therefore gets part of the company's profits and the right to vote on how the company is controlled: Shareholders will be voting on the proposed merger of the companies next week. Dividends will be sent to shareholders on March 31.

times, this function becomes unavoidable in times of crisis.

Despite the commonalities between the private and the public organization, they have very different modes of management, especially when it comes to the use of human and financial resources, the organization and the objectives itself. The private organization at times acts as a public enterprise which is rather a commercial and administrative unit of a legal nature, because the intensification of competition makes the State entrepreneur increasingly ineffective compared to a more efficient private sector and market. This largely explains the cause for the public sector's shortfall in productivity relative to the private sector.

In addition, the Moroccan State's efforts to modernize public administration have not fully achieved the objective of promoting the public service because of the inadequacies related to management, which is generally the administrative in nature, office model hindering development: the challenge of public management has become highly relevant as public organizations face the challenges of development and globalization.

This proposed approach aims to introduce as much as possible the logic and practice of management into the management machinery of the public sector and its related services.

The reform of Governance and financial control of the State Enterprise and Public Institution was launched in 2012. The reform aims to establish and clarify the rules of good governance and public organizations to improve the efficiency of financial control, currently governed by Law No. 69-00 of 11 November 2003.

This reform aims to shift control to an effective and preventive risk management and integrate the major issues of effective

governance⁶. The bill provides four types of priori control, accompanying control, post-control and contractual control, as well as four control objectives pertaining to controlling timeliness, regularity, the assessment of reliability and performance and of economic and financial risks.⁷

The quality of management and governance is part of the assessment of the management and governance, based on the effective implementation of devices and management tools and operationalization of the device governance. This assessment classifies administrative bodies at three levels⁸. For levels 1 and 2 are a priori financial control and financial control support respectively, the implementation of management control is not required by cons in level 3 which is the financial control ex post control is compulsory management. Regarding the contractual financial control⁹ setting up management systems and instruments are mentioned in the contract between the state and the company.

4. Research assumptions and hypotheses

According to the aforementioned theories and the answers of the questionnaire, the factors that raise hindrances in the implementation of public institutions management control are summarized as follows:

- Obstacles related to the type of organization, structure, culture and abused decision-making bodies; the strategy of the institution, operational plans, goals and objectives to the choice of indicators;

⁶ Synthesis Report on the Public Establishments and Enterprises sector (EEP) accompanying the draft 2015 Budget Law, page 11.

⁷ Bill on the governance and financial control of the State institutions and public companies and other organizations.

⁸ Bill on the governance and financial control of the State institutions and public companies and other organizations Page 17.

⁹ This type of control is Specific to concessionaires.

- Barriers related to mobilization of human and material resources (Information System Procedures Manual, Equipment, level management training, expertise).

In relation to the issue of the multiple obstacles in a public institution, and taking into account the context of our study, our research hypotheses will be formulated as follows:

- **Hypothesis 1:** *Over the management control department is attached to the Directorate General over the role played by the latter is more important.*
- **Hypothesis 2:** *The lack of an information system is the main constraint to the implementation of management control.*
- **Hypothesis 3:** *the function of management control is facing a variety of organizational order barriers, access to information and lack of human resources.*

5. Methodology

The software used in our study is SPSS (Statistical Package for Social Sciences) is essentially software for processing data for statistical analysis. It reads the data, translates it into SPSS format, transforms – if requested – and performs mathematical and statistical operations. The version of SPSS used in this scientific paper is 21.0

SPSS is a software for analysis and data processing. Its diversified functions make it possible to develop several types of analyzes:

- *Basic analysis* (frequencies, averages, crossed tables ...)
- *Econometric analysis* (linear regression, multiple ...)
- *Data analysis* (factorial analysis ...)
- And many others...

It also allows working directly on variables. For instance, it automatically recodes a string variable in numeric terms, calculates a variable that is the sum of the values of other variables. Some options for formatting tables or charts can also allow the user to print results directly legible and clean.

The use of SPSS is varied according to the specific sector. In banking, it is used for scoring, customer segmentation, whereas a research firm uses it for basic analysis and modeling. SPSS can also be an effective database support.

Since management control is carried out internally within the public institution, the questionnaire appears to be the most appropriate form so that the maximum possible information related to such practice is obtained. In our study we contacted 40 public premises, including 27 wanted to answer our questionnaire, during the data collection phase a few remarks can be mentioned:

- The difficulty of access to information for most public institutions;
- The lack of attractiveness vis-à-vis the questionnaires and similar studies;
- The sample size remains small relative to the population mother up to 256 public institutions.

6. Statistical results and discussion

There are several factor analysis techniques, the most common of which are Principal Component Analysis (PCA) for quantitative variables, Correspondence Factor Analysis (CFA) for two qualitative variables, and multiple correspondence analysis (ACM) on several qualitative variables (this is an extension of the AFC). To combine both quantitative and qualitative variables, the mixed analysis offered by Hill and Smith may be used. The correspondence analysis (AFC or ACM) studies the proximities between individuals described by two or more qualitative variables as well as proximities between the modalities of these variables.

Multiple correspondence analysis is a descriptive technique that summarizes the information contained in a large number of variables in order to facilitate the interpretation of existing correlations between these variables. The aim is to find out the correlated modalities between them, so this

method is applicable to situations where statistical individuals are described by two nominal variables, even though it is common to have individuals described by several (two or more) nominal or ordinal variables. This is particularly the case, considering that our data are the results of a survey based on closed-ended multiple-choice and single-response questions. An extension of the AFC to these situations has therefore been proposed. It is usually called Multiple Correspondence Analysis or ACM.

We thus place ourselves in the situation where we have N statistical individuals, described by Q nominal or ordinal variables X_1, X_2, \dots, X_Q . The ACM aims to highlight:

- The relations between the modalities of the different variables;
- Possibly, relationships between statistical individuals;
- The relations between the variables, as they appear from the relations between modalities.

The general idea is as follows. The set of individuals can be represented in a multi-dimensional space, where each axis represents the different variables used to describe each individual. Hence a variable with four modalities is described along three axes. Such a point cloud is as difficult to interpret as reading the data file directly. We do not see the possible correlations that can exist between modalities, for example that going to the cinema is more common among people living in urban areas.

To better represent this cloud of points, we then proceed to a change of coordinate systems. Individuals are then projected and represented along a new axis system.

This new system of axes is chosen in such a way that the majority of the variations are concentrated on the first axes. The first two to three axes explain the majority of the differences observed in the sample, the other axes providing only a small additional piece of information. Therefore, the analysis can focus

on its first axes, which will be a good summary of the variations observable in the sample.

The multiple correspondence analysis quantifies the data (qualitative) "ACM" is to describe the relationship between two variables in a correspondence table for a space with few dimensions, while simultaneously describing the relationships between the terms of each variable.¹⁰

The points of projection of a variable of the vector located between the origin and a modality of points of the other variable describe the relationships between the two variables. The multidimensional exploratory method provides a synthetic representation of the categories from a qualitative criteria battery¹¹, Repository of an experimental protocol or investigation. A measure of association based on ACM is the chi-square.

A. The chi-square test

Table 1: *Chi-square tests*

	Value	df	Asymptotics significance (bilateral)
Chi-square Pearson	16,351a	3	.001
Likelihood Ratio	19.315	3	, 000
Number of valid observations	27		

At. 6 cells (75.0%) have a theoretical size less than 5. The minimum expected count is 1.11.

This result shows that the link between the two variables is significant. The meaning is below the accepted risk of 5%. It is possible to conclude that there is a significant link between the attachment of the management control department at the Directorate General and the role of the latter.

¹⁰ IBM SPSS Categories Jacqueline J. Meulman 20: Correspondence Analysis multiples- Chapter 6.

¹¹ Michel Tenenhaus, Forrest w. Young, An analysis and synthesis of Multiple Correspondence Analysis, optimal scaling, dual scaling, homogeneity analysis and other methods for quantifying categorical multivariate data, Psychometrika-Vo 50, no. 1, 91-119 march 1985.

Table 2 : Symmetrical Measures

		Value	Meaning approximated
Nominal by Nominal	Phi	778	.001
	Cramer's V	778	.001
Number of valid observations		27	

However, the link between attachment management control department at the Directorate General and the role occupied by the latter is strong enough. Cramer's V is equal to 0.788 for a maximum value of 1.

B. Descriptive Statistics

Table 3 : Implementation Constraints

	Modality after discretization	Effective
Valid	Structure of the institution	1
	Heterogeneity of objectives	5
	Lack of budget unity	1
	Lack of a system informationa	10
	binding system information	3
	2 and 4	6
	1 and 4	1
	Total	27

It is noted that the number of employees who responded that a "lack of an information system" is 10 out of 27%

C. Multiple Correspondence Analysis (MCA)

Table 4 : Model Summary

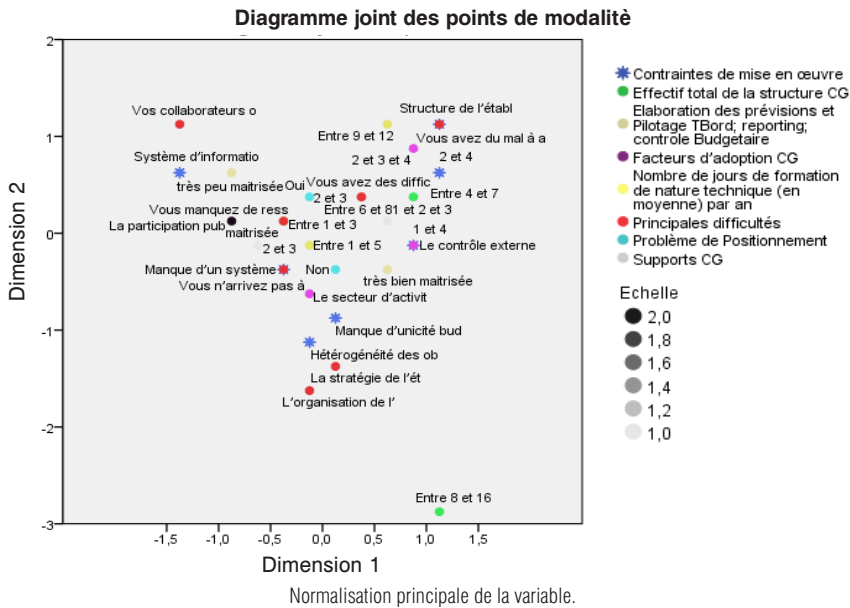
Dimension	Cronbach Alpha	Explained variance		
		Total (intrinsic value)	Inertia	percentage of explained variance
1	888	6.552	298	29.780
2	843	5,117	233	23.259
Total		11.669	530	
Average	, 868A	5,834	265	26.519

At. The Alpha Cronbach average value is based on the average worth.

Cronbach's alpha, sometimes simply referred to as the α coefficient, is a statistical device including psychometry used to measure the internal consistency (or reliability) of the questions on a test (answers to questions on the same subject to be correlated). Concerning our case Cronbach's alpha is widely acceptable is equal 0,88.

The two selected dimensions allow for taking into account 53% of the total inertia through a patterned summary interpretable in terms of distances between observations.

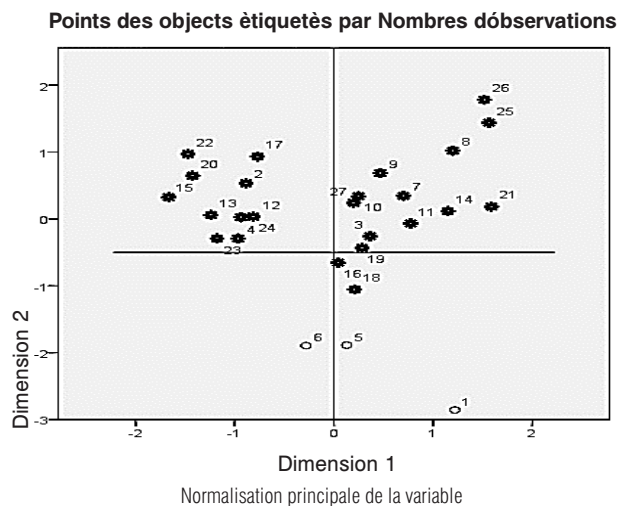
Fig. 1. Modality Diagram



According to the first mode diagram (figure 1), all public institutions responded to the variable *Major challenges of management control* in RED with the main modality inadequate human resources and obstacles to access to information. For the variable *Implementation Constraints of management control*, BLUE found the pattern of responses

tends to a major constraint is the lack of an information system. It should be added that the variable *Number of training days* YELLOW in most controllers does not have a sufficient number of days (more than 80% do not exceed an average of 3 days per year) to identify the changes in the business of the management controller.

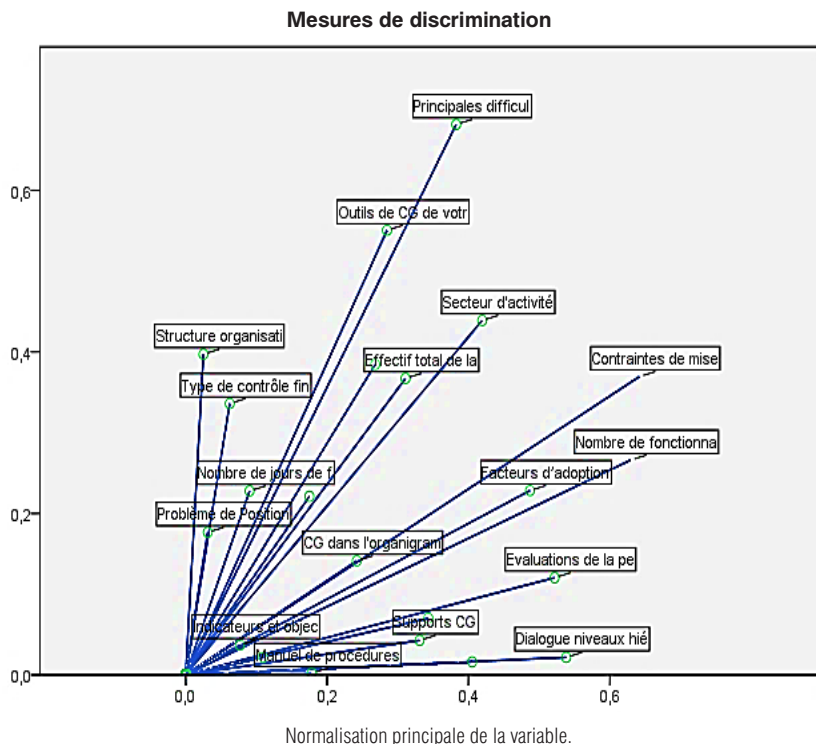
Fig. 2: Labeled by numbers of observations



The graph of *Labeled by Number of Cases* is an overview of all responses from the questionnaire using the Multiple Factor

Analysis statistical method. Most of the responses are almost identical, characterized by the correlated points above the X axis.

Fig. 3. Discrimination Measures



The figure of *Discriminatory measures* can expose all relationships and correlations that possibly exist between the variables at this point the variable *Management control of Constraints* and *Number of employees* is in the same vertical direction to the right, which explains the existence of a significant correlation. There is a correlation between

the variables **Organizational structure and positioning problem of management control**, also between **Responsible for performance evaluation** and **Dialogue between hierarchical levels**, each two variables are on the same vertical line in this figure.

D. Validation of Assumptions

Table 5 Results of hypothesis testing

Hypothesis	Statement of the hypothesis	Results investigation quantitative
hypothesis 1	Over the management control department is attached to the Directorate General over the role played by the latter is more important.	Validated
hypothesis 2	The lack of an information system is the main constraint to the implementation of management control.	Validated
hypothesis 3	The function of management control is facing a variety of organizational order barriers, access to information and lack of human resources.	Validated

7. Conclusion

Management control results from an essentially internal approach aimed at improving the control of the human, financial and material resources of the services with regard to their missions. An instrument geared towards progress, it is exercised continuously, upstream and downstream of the action. Its smooth functioning implies the active participation of each level of responsibility in the service and an appropriation by all agents.

With the launched reform of the Moroccan public administration, the companies have embarked on a long process of restructuring and result-based management. There are multiple goals that drive an organization to put in place a management control system. They are generally dependent on its strategy and are intended to be communicated at all hierarchical levels.

In Morocco, several attempts have been made to improve the management of public sector institutions. The goal is to ensure a certain level of performance achieved from a responsible practice of management methods and tools. Management control should be organized and structured in such a way that it takes into account the public policy performance objectives defined in the context of the budget debate and allows for reporting the results in terms of efficiency, effectiveness and efficiency to improve transparency and to enrich the report to Parliament.

This paper was focused on the main obstacles encountered by public institutions in the implementation of management control, which are numerous. To provide clear and relevant response to the problem of our study, we conducted a survey through a questionnaire sent out to public institutions (a sample of 27 establishments), analyzed using statistical methods (chi-square and ACM).

The results we have produced have shown that the assumptions are validated, and actually reveal that the implementation of management control is due to various barriers

we have already mentioned. Yet the major difficulties that most public institutions are faced with remain the lack of an information system, the lack of human capital and the obstacle of access to information through the management controller.

The introduction of an integrated information system has the effect of facilitating the exchange of information between stakeholders and thus enhancing the role of the financial controller in the choice of management tools and contribution to the achievement of organizational objectives.

However, it should be emphasized that the study may be limited by the small number of respondents and did not allow the spread of nominal and the characteristic results of most of our data has limited our analyzed (Statistics in applying the results). Finally, other research avenues are possible including the effective role of the establishment of the information system within public institutions in mitigating the problem of the implementation of management control.

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