

# Adoption of the Management Control Systems by Moroccans Public Establishments: an Explanatory Model

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## Abstract

In most developed countries the subject of management control in the public sector is in vogue (Gibert, 2002). However, in Morocco, the public sector enterprises often considers the management control as a luxury (El ghadi, 2006), and its establishment seems too premature in relation to the multiple priorities encountered by the various companies in this sector.

In Morocco, only one study on contingency factors of the adoption of management control systems was performed. (Ahsina K, 2012). From where interest of this research.

However, under the influence of budgetary pressures and social, the leaders of these companies realize the need to have a management control system allowing them to borrow the track of the performance.

The purpose of this article is to have the results of a survey conducted near 41 companies and of the public corporations to Morocco and which aims to answer the following questions:

- How is the management control systems practised in the companies and of the public corporations in Morocco?
- And which are the explanatory factors of its adoption and its differentiation?

The results to which we ended showed indeed that the differentiation of the adoption systems of management finds its explanation in factors of contingency, in fact: size, the sales turnover, the branch of industry, the position with respect to the market and the type of control exerted by the Government.

**Keywords:** New public Management, Contingency factors, Explanatory model.

## Introduction

In most developed countries the subject of the management control in the public sector is in vogue (Gibert, 2002). However, in Morocco, the companies of the Moroccan public sector often regarded the management control as a luxury (El ghadi, 2006), and its installation seems too premature compared to the multiple priorities met by the various companies of this sector.

However, under the influence of the budgetary and social pressures, the management of the Moroccan public enterprises is about to knowing deep changes. After having privatized and having restructured several entities and registers the relationship with others in a logic of partnership, the leaders of these organizations made themselves conscious of the need to implement management control systems allowing them to borrow the way of the performance.

The object of this article is to determine specificities and factors that impact the adoption of these management's tools in the Moroccan's public enterprises.

## 1. Literature review

These last years were remembered by the transplanting of the management tools of private to the public sector in the developed countries.

Several reasons explain the importation of these management tools by the public agencies:

- The first reason is due to the various budgetary pressures due to rarefactions of the revenues from taxes and increases in the social needs to satisfy.
- The second explanation is due to the rise of liberal ideology and the new public management.

It is commonly allowed that there is no one way to manage, indeed, the management must be adapted to the characteristics of the public organizations (their missions, their objectives and their own environmental context).

The theory of the contingency emphasized the adaptive aspect of the management control to the contextual factors of the organizations. For Lawrence and Lorsch (1967), the powerful companies must adapt their level of differentiation and integration to the level of uncertainty of the environment in which they are located.

However, research in management began tardily in Morocco, in the Nineties of last century, (Ahsina, 2012), and disciplines of management control is a relatively new field of research.

According to the literature that we mobilized and with a qualitative study on two public corporations (the National office of water (ONEP) and the National agency of the Land Conservation (ANCFCC)), the factors which seem to us most determining in the adoption of the management control systems are:

- size;
- the branch of industry;

- the public participation;
- And external control.

According to our qualitative study and the literature, we can formulate this hypothesis:

**Hypothesis 1:** There is a significant and positive effect of size on the use of the modern management control systems;

**Hypothesis 2:** There is a significant and positive effect of monopolistic and non-market activities on the use of the traditional management control systems.

**Hypothesis 3:** There is a significant and positive effect on the government presence in the enterprise's capital on the use of the traditional management control systems.

**Hypothesis 4:** There is a significant and positive effect of the flexibility of external control on the use of the modern management control systems.

## II Methodology

We investigated near 41 Moroccan companies in order to test our model. The results of this research enabled us to validate our model partially.

The questionnaire was sent, by post way, accompanied by a letter of introduction into which the optics of research was specified.

The distribution of the interviewed according to their responsibility within the company is as follows:

**Table 1: profile of interviewed**

People interviewed	Number	Frequency
Management controllers	25	61%
Financial	16	39%
Total	41	100%

## III Results

We present, first the test of hypothesis (III.1), then with multiple regressions (III.2) and finally we will discuss the results according to the literature.

### III-1 simple regression

In what follows, we will test the explanatory range of each independent variable. We have four main categories of explanatory variables, namely: size, the type of activity, the public participation, and the type of the external control exerted by the Government.

#### a- Size and management control

Table 2: Summary of the model

Model	R	R-2	R-2 adjusted	Standard-Error
1	,562	,315	,298	,418

The coefficient of correlation presents a relatively strong value (0,562) between the size and the state of the management control systems. This variable explains 31.5% of the differentiation of the management control systems in the public enterprises.

Table 3: coefficient of the model

Model		Not standardized coefficients		Standardized coefficients	t	Sig
		B	Standard Error	Beta		
1	(constant)	,830	,153		5,433	,000
	TL	,363	,086	,562	4,238	,000

The table above gives the coefficients of the right-hand side (0.83 and 0.36) as well as a measurement of the significance of these two coefficients (constant and coefficient of the explanatory variable). In this case, they are significant, therefore the assumption of nullity of the coefficients can be rejected for one and the other.

This table makes it possible to test the significance of the model obtained. Here the model is largely significant (0, 000).

#### b- External control and management control

Type of control	Management control systems		Total
	Traditional	Modern	
control in priori	13	3	16
Advice Control	2	10	12
Conventional control	1	2	3
Specific control	1	9	10
<b>Total</b>	17	24	41

In reading the table above, we can conclude that the public enterprises having flexible external control tend to

have a modern management control. In fact, more than 83% (10/12) of public enterprises which receive advice control have a management control little modern or modern. As well, the public enterprises which undergo a priori control tend to have a traditional management control.

**c- Management control systems and the public participation**

Pourcentage of control (PC)	Management control systems		Total	Frequency
	Traditional	Modern		
100%	14	11	25	61%
100%<PC>50%	3	9	12	29%
PC<50%	0	4	4	10%
<b>Total</b>	17	24	41	<b>100%</b>

We notice that the more the rate of Pourcentage of control falls and the more the systems of management control become modern and vice versa.

**1-4- Management control systems and activities**

Type of activities	Management control systems		Total	Frequency
	Traditional	modern		
Financial sector	0	7	7	17%
Market Sector	11	17	28	68%
Non-Market Sector	4	0	4	10%
Social sector	2	0	2	5%
<b>Total</b>	17	24	41	<b>100%</b>

We note that the public enterprises whose activity is financial use modern management control systems, and that those of the non-market sector or social use a traditional management control systems.

Therefore, the four hypothesis of our model have been validated. However, its results must be supplemented by the contributions of multiple regressions. The point which follows in will be the subject.

**III-2 The multiple regressions**

In contrast to the simple regression developed above, in the case of multiple regressions, it will be more that an explanatory variable in order to capture a higher percentage of the variance of the variable explained.

The issue at stake is, among all the variables considered, to select only those that contribute in an important way to the variance of the variable explained by avoiding to y multicollinearity problem.

We analyze in what follows the results provided by Statistical Package for the Social Sciences (SPSS). Four models were tested successively by SPSS:

Table 8: Summary of the model for the multiple regressions

Model	R	R-2	Adjusted R-2	Standard Error of the estimate
1	,593(a)	,351	,335	,407
2	,692(b)	,479	,452	,369
3	,739(c)	,546	,510	,349
4	,773(d)	,598	,553	,333

It is clear from the reading of this table that the fourth model is better than the first three from the point of view of its explanatory power (the adjusted R2 is of 0,553). It better explains the variance of the variable to explain the management control systems.

**III-3 Discussion**

In the final analysis, the results of the regression (as well as simple multiple) are of a scope satisfactory explanatory. Thus the R2 which measure the explanatory power of the model is located at high levels (between 0.59 and 0.77).

The contribution of the explanatory variable turnover is the most important in the training of R2, and then it was the type of activity (TA), followed by the size and last amended the public participation (PP). These so-called results prove, the differentiation of management control, is largely explained by the explanatory variables in our model, in this case: the turnover, size, type of activity and public participation.

These results prove that, the differentiation of the systems of the management control, is largely explained by the variables of our model, in fact: the sales turnover, size, the type of activity and the public participation.

In comparison with the literature, these results seem to be supported well by the various theoretical contributions. Indeed, the contributions of the theory of the contingency make it possible to confirm the differentiation and the contingency of the adoption systems of management via the variables quoted above.

Of their share, Merchant (1981), Kalika (1987), Jorissen and al. (1997) show that the budgetary techniques are all the more sophisticated that the size of the companies is important. In corollary, the size is a variable which

exerts an influence on the contents of the tools for management control.

Public participation is widely emphasised by Saias and Leonardi (1977) as being an explicative variable of the differentiation of Management control. These authors maintain that the public organisations will be all the less sensitive in logic of effectiveness and of efficiency as the power of pressure on offer and on public request will be strong.

## CONCLUSION

At the end of this research, we could put the emphasis on the explicative factors of the adoption of the systems of management control within the Moroccan state-owned companies.

Indeed, and to bring rather clear answers to research questions, we led a quantitative study by questionnaire to a sample of 41 firms and state-owned companies. So gathered information made the object of statistical treatments in touch with our research objectives.

The results to which we led really showed that the installation of the systems of management control finds its explanation in factors of eventuality, in this case: size, business figure, sector, position person opposite the market and the type of control exercised by the State.

As well as, the modernisation of the systems of public control has the effect of bringing the upper performance to the firms with traditional systems of control.

Two methodological borders must be named: the modest size of the sample (41 firms) and the approach of contingency theory used in this job.

Many research ways are possible, notably the theory of the cycle of life of innovations to explain the changes of the tools of management control in these organisations.

Finally, the way to go through long rest and obstacles appear many for research in public management control in Morocco. These are due as well to public tradition as from absence of structuring of researches to management in the field of Accountancy.

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