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The Effect of MENFPESRS Programs on Performance: An analysis of three components

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ABSTRACT

In this work, we present the results of a survey on the effect of the programs of the Ministry of National Education, Vocational Training, Higher Education and scientific research (MENFPESRS) on the performance of Moroccan public academic institutions (Organic Law n°130-13 relative to the finance law).

In this study, we focus on the three components, namely strengthening transparency, improving the efficiency and effectiveness of public spending and the quality of service provided to citizens, and increasing the accountability of managers.

This survey allowed us to assess the relationships between the different variables in the research model using multiple regression analyses. The hypothesis test carried out on the managers ' sample of 41 observations yielded quite different results. In the results obtained using the questionnaire, we found that 91.1% of the relationship between performance and programs is explained and that the quality of the fit is very good (R^2 = 82.9%) and that the objectives of the performance can be achieved using the programs of leadership and governance, higher education, and scientific and Technological Research.

Keywords: *Schools-Academic Public, Morocco, Performance, Programs, The organic Law relating to finance laws.*

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1. INTRODUCTION

The reform of the state through public finances and the establishment of a Public Enterprise (EEP) have an urgent and indispensable aspect to overcome the impasse and the economy of inequalities that is to say situations of fragility. Certainly, the problem is at the heart of certain current events (crises, threats, economic and financial transitions...). Therefore, the great importance of rethinking the reform of the state and the public authorities and drawing up the main lines of reflection of a coherent strategy to be designed and implemented is a prerequisite in an international context marked by public finance management reform in many countries. Since 2001, Morocco has been part of this process by testing the principles of results-based budgetary management. The advent of the new constitution in 2011 introduced new principles governing public finances, namely:

- Participatory democracy;

- Strengthening parliamentary control;

- Preserving the balance of states

- and good governance.

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The reform of the Organic Law of the finance law became an imperative after extensive consultation with stakeholders (Ministries, Civil society, Parliament).The organic law on the finance law was adopted in 2015. It constitutes the new legislative framework and frames the process of preparing and implementing finance laws as a lever for modernizing public management, with a focus on performance, accountability and transparency.

Process of adoption of the organic law on finance laws (LOLF) :

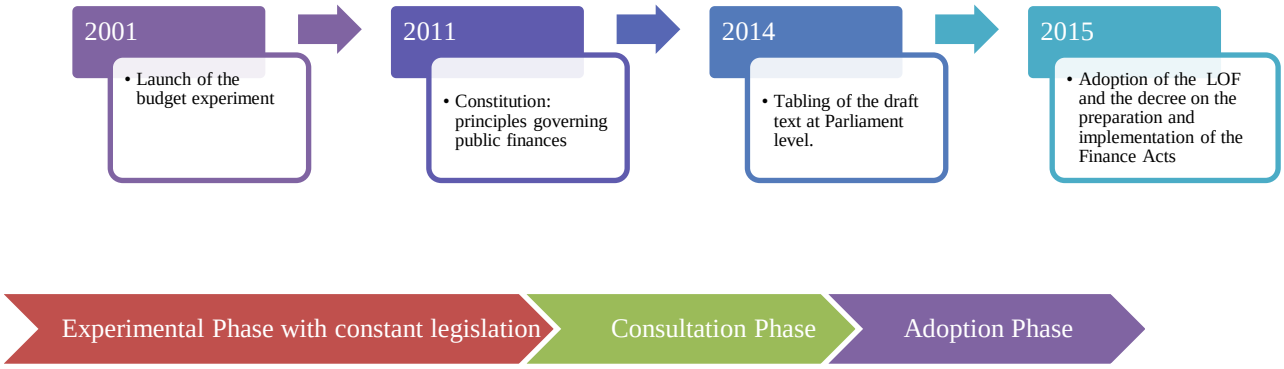

Figure 1 : Reform of the Organic Finance Act

Pursuant to Article 1 of Decree No. 2.12.790 (19 February 2013) determining and organizing its functions, the Ministry of National Education, Vocational Training, Higher Education and scientific research (MENFPESRS) is responsible for preparing government policy in the field of higher education and scientific research and for monitoring its implementation in accordance with the laws and regulations in force. To this end, the MENFPESRS is responsible for establishing a performance project.

Performance implies the transition from a logic of means to a logic of results measured by indicators to assess the use of public money for the benefit of the citizen of the taxpayer and the user of the public service. As part of this performance Logic, The Ministry of National Education, Vocational Training, Higher Education and scientific research presents its budget with a multi-annual projection in the form of a program describing a public policy by forming expected objectives and indicators measuring results. Thus, the performance of universities is essential not only for themselves, but also for stakeholders, to whom they must be accountable. Organizations funded by public funds must provide an ever-increasing amount of information about their operations and accountability, in the interests of transparency.

Universities are established by law in accordance with article 46 of the Constitution. They are public institutions with legal personality and administrative and financial autonomy. They are placed under the supervision of the state, the purpose of which is to ensure compliance by the competent bodies of universities, in particular those relating to the tasks assigned to them and, in general, to ensure, as far as they are concerned, the application of legislation and regulations concerning public establishments. It is not about profits, it is about balanced budgets. It is for us to study the impact of the programs of the MENFPESRS on the performance of Moroccan universities.

1.1 Theoretical frame.

In order to meet the objective of our research, it is essential to define certain concepts, including the performance and programs of academic institutions.

2. LITERATURE REVIEW

2.1. Performance:

The concept of performance is not an ordinary concept, but its definition is unique to each type of organization and influenced by its specific peculiarity. As the authors point out, “performance is not an ordinary concept, it is a 'construct' which is influenced by various factors like the type of organization concerned, its sector of activity, and its strategy. The variety of these factors generally makes the definition of performance specific to each organization " (Salgado 2013).

Lorino (2001) defines performance as " a set of elements that contribute to the creation of the value of the organization, or more accurately, to the improvement of the net value of the organization through the contribution of each individual or group of individuals."

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Solle and Rouby (2003) reached the same conclusion by stating that " performance is built in time and in collective action." The term performance has various meanings to perceive it. According to (BOURGUIGNON, 1996), the notion of performance contains three primary meanings. It can mean action, its result and possibly its success. Despite the ambiguous nature of the term performance itself, (E. M. MORIN et al.1994) have identified four main theoretical approaches to effectiveness or performance encompassing an economic approach, a social approach, a systemic approach and a political approach. The focus on performance will bring back the support for performance measurement.

The economic approach is based on the central concept of objectives to be achieved, which translates the expectations of the leaders, in economic and financial terms. The study by (J. CABY et al, 1996) illustrates this approach and highlights its strategic implications. The social approach results from the contributions of the school of human relations, which focuses on the human and social dimensions of the organization. It is based on the principle that achieving social objectives makes it possible to achieve economic and financial objectives. The study by (R. E. QUINN, J. ROHRBAUGH, 1981) develops this approach without neglecting the previous aspects and integrating the activities necessary to maintain the organization.

The systemic approach highlights the capacities of the organization, considering that “organizational effectiveness is the degree to which an organization, as a social system with resources and Means, fulfils its objectives without obeying its resources and Means and without putting undue pressure on its members. »

The economic approach is based on the central concept of objectives to be achieved, which translates the expectations of the leaders, in economic and financial terms. The study by (J. CABY et al, 1996) illustrates this approach and highlights its strategic implications.

The political approach considers that, from a distant point of view, any individual can have his or her own criteria for judging the performance of an organization (E. M. Morin et al.1994).

For its part (R. H. Hall, 1980) distinguishes between two approaches to designing performance, specifically the goal achievement model and the resource acquisition model. A third Mink was distinguished and is said to be the satisfaction of the stakeholders. While for some this approach is marginal, for others (A. C. BLUEDORN 1980) it is the most interesting approach to understanding performance measurement.

In the public sector, performance measurement is not systematized because it must take into account both the general interest objectives defined by the regulatory body (usually the state) and the expectations of users (external clients), which are complex and diversified. This is all the more so since a performance measurement system must help achieve results (meeting the organization's mission) while reducing time and costs and allocating available resources (streamlining costs to meet budget envelopes).

As part of our research, we have chosen to study the effect of the programs of the Ministry of National Education, Vocational Training, Higher Education and scientific research (MENFPESRS) on the performance of Moroccan public academic institutions.

2.2. Program:

A program includes the appropriations (of whatever nature) intended to implement an action or a coherent set of actions. It reports to a single minister and is a unit specializing in appropriations and defining objectives and performance indicators, and it requires management leadership that will bring about new managerial functions.

Program objectives and corresponding indicators are included in the performance project developed by the department or the institution concerned. The said draft performance report shall be submitted to the parliamentary committee concerned, together with the draft budget of the said ministerial department or institution.

A priori, a program must bring together all the means which contribute to the achievement of its objectives. However, when it is difficult to break down support functions or multi-purpose services on public policy programs, programs dedicated to support and multi-purpose services are built. Table 1 summarizes the various programs, objectives and indicators of the MENFPESRS performance project.

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Table 1 : summary of programs of the Ministry of National Education, Vocational Training, Higher Education and scientific research (MENFPESRS)

Programs	Objectives	Indicators
Steering and governance	- Improvement of Human Resources Management	- Pedagogical support rates Educational background rates
	- Implement an integrated information system to improve governance and management of the sector	- Cumulative rate of deployment of Information Systems projects - Rate of deployment of University mutualized projects - Number of online services for the benefit of users
Higher Education	- Meet the growing demand for higher education	- Evolution of the number of registered students - Evolution of the number of registered students
	- Diversifying the training offer and ensuring its quality	- Percentage of vocational courses in open-access institutions - Percentage of students enrolled in vocational courses in open-access institutions - Percentage of students enrolled in vocational courses
	- Improved internal and external performance	- - Percentage of graduates by duration of degree (per cycle)
Scientific and Technological Research	Support scientific research to improve its production and international outreach	- Number of doctoral theses supported - Number of publications in indexed international journals. - Number of co-publications with foreign partners - Percentage of doctoral students receiving excellence grants who support their thesis.
	- Valorizing the scientific research results.	- Number of research and innovation projects carried out in partnership with enterprises - Number of innovative enterprises created within the framework of the Morocco Incubation and spin-off network (RMIE) - Number of patents filed by universities
	- Promote the pooling of research infrastructure	- Number of analyses and measurements carried out by the Technical Support Units for Scientific and Technical Research (UATRS)) - Number of articles downloaded from the databases available at the Moroccan Institute for scientific and technical information (IMIST))
Support	- Promote equity of access to higher education	- Evolution of scholarship students by cycle

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social students	- Meet student housing demand	- Evolution of the number of beds - Satisfaction rate with new accommodation requests
	- Give students access to an economic restaurant	- Number of meals served per year

Source: Ministry of Higher Education, Scientific Research and management training performance Project 2016

3. MATERIAL AND METHOD

3.1. Method of study

The method used is based on the use of data obtained from a questionnaire (Table 4) distributed to 138 managers of public Moroccan academic institutions (one manager per institution). We received responses from 41 managers who agreed to participate in our study, with a response rate of 29.71%. In order to make our study more reliable, we have chosen as the manager, the authorizing officers and the deputy authorizing officers as the main actor in this evaluation. As a result of this investigation, we have come up with a large volume of information. In the continuation of our study, we present the results of the empirical research, and then we discuss some of the discussions and remarks. It should be noted that, as Lacroix pointed out in 2011, for these types of studies, the choice of the manager as a means of evaluation leads to reliable results. In addition, the development of the questionnaire took into account the degree of use of the managers of the performance measurement indicators. In order to provide a measure to all its criteria of the model designed, we opted for the Likert scale. Our choice may be justified, according to Evrard et al. (2003), by the fact that this scale is probably one of the best known in opinion studies. It is supposed to be a good indicator of the attitudes of managers. Table 2 presents the list of Moroccan universities selected for this study during the 2017-2018 academic year.

Table 2: list of Moroccan public universities subject of our research

Type of institution	**2017-2018**
Faculties Chariaa, Ossol Eddine and Allogha Arabia	5
Faculties of Law, Economics and Social Sciences	17
Faculties of Arts and Humanities	14
Faculties of Science	11
Polydisciplinary Faculties	09
Faculties of Science and Technology	08
Faculties of Medicine and pharmacy	07
Dental schools	2
Schools of Engineering Sciences	16
National Business and management schools	10
Higher Schools of Technology	15
Faculties of Education	1
King Fahd School of translation	1
Higher Institute of Health Sciences	1
Technical Colleges	8
Institute of Sports Sciences	1
Total	**126**
University presidencies	12

Source: Moroccan Directorate of Strategies and Information Systems.

3.2. Quantitative data analysis methodologies:

The aim of our study is, on the one hand, to present these concepts and, on the other, to propose to the researchers certain methods to improve the validity and reliability of their work. One of the questions a researcher often asks himself is how his research can be both rigorous and re-appropriable by other researchers. To what extent can the results obtained by the researcher make a contribution to the scientific field in which the research is carried out? This involves assessing the research against two criteria of validity and reliability.

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More generally, two main concerns can be identified in terms of validity, namely to ensure the relevance and rigor of the results and to assess the level of generalization of these results. In the first case, it will be necessary to test the validity of the measuring instrument and the internal validity of the results. In the second case, the focus will be on ensuring the external validity of the research results.

Reliability, on the other hand, seeks to demonstrate that the operations of the research could be repeated by another researcher or at another time with the same result(s). This notion of reliability, concerns, like validity, different levels including the reliability of the measuring instrument and the more global reliability of the research (Drucker-Godard et al. 2007).

The question of the validity and reliability of research arises in the same way for the so-called quantitative as for qualitative research, even if these two criteria have long been considered to apply only to quantitative research. It is appropriate to discuss the validity and reliability of the quantitative phase of our research in the following section.

Prior to the formulation of items in our measurement scales, we followed the procedure for testing measuring instruments (Churchill, 1979). Table 3 groups the various programs of the MENFPESRS and the objectives of the organic law relating to finance laws 2015 (conceptual Model).

Table 3: list of Model criteria

Objectives performance Guide	**performance Programs performance**
Objectives performance Guide, performance)	Steering and governance
Enhancing transparency	Higher Education
Improving the efficiency and effectiveness of public spending	Scientific and Technological Research
	Social support for students

4. PLAN AND CONTENT OF THE 2018 QUESTIONNAIRE

The development of the questionnaire took into account the profiles of university managers and the performance indicators proposed by the MENFPESRS as well as the performance programs.

Table 4: Identification

Your sex	Male		Your occupied functions	Establishment management	
	Female			Research laboratory management	
Your age group	[40 − 50[			Training management	
	[50 − 60[			Others	
	[60 − 65[		Your preferred academic disciplines are in the field of	Mathematics	
				Physics	
Your work in a host institution (number of students))	< 1000			Biology	
	Entre 1000 et 10000			Chemistry	
				Geology	
				Humanities and Social Sciences	
				Economy or management	
	Between 10000 and 20000			Legal Sciences	
				Others	
	>20 000				

DOI: 10.31695/IJASRE.2019.33533

4.1. Ministry Programs

Table 5: Performance project

	1	2	3	4	5
Program N ° 01: Pilotage and governance					
PG1.Teaching rate					
PG2.Administrative management rate					
PG3.Cumulative deployment rate of information systems projects					
Program N ° 02: Higher Education					
ES1.Evolution of the number of students enrolled					
ES2.Rates of use of carrying capacity					
ES3.Percentage of vocational courses in open access schools					
ES4.Percentage of students enrolled in vocational courses in open access institutions					
ES5.Percentage of students enrolled in vocational programs					
ES6.Percentage of graduates by length of graduation (per cycle)					
Program N ° 3: Scientific and Technological Research					
RST1.Number of doctoral theses supported					
RST2.Number of publications in indexed international journals					
RST3.Number of co-publications with foreign partners					
RST4.Percentage (%) of doctoral students receiving scholarships for excellence who support their theses					
RST5.Number of research and innovation projects conducted in partnership with companies					
RST6.Number of innovative companies created within the framework of the Morocco Network Incubation and Spinning (RMIE)					
RST7.Number of patents filed by universities					
RST8.Number of analyzes and measurements carried out by the Technical Support Units for Scientific and Technical Research (UATRS)					
RST9.Number of articles downloaded from the databases available at the Moroccan Institute of Scientific and Technical Information (IMIST)					
Program N ° 04: Social Support for Students					
ASE1.Evolution of scholarship students per cycle					
ASE2.Evolution of the number of beds					
ASE3.Rates of satisfaction with new requests for accommodation					
ASE4.Number of meals served per year					

4.2. Attributes of performance:

Table 6: performance objectives (Organic Law n ° 130-13 relating to the Finance Law)

	1	2	3	4	5
P1. Enhancing transparency					
P2. Improving the efficiency and effectiveness of public spending					
P3. Increasing managerial accountability					

DOI: 10.31695/IJASRE.2019.33533

5. RESULTS AND DISCUSSION

Tables 7, 8 and 9 present the results of the survey conducted in 2018. We received responses from 41 managers who agreed to participate in our study on 138 questionnaires distributed, with a response rate of 29.71%.

Table 7: Identification

Your sex	Male	34	Your occupied functions	Establishment management	18
	Female	7		Research laboratory management	8
Your age group	$[40-50[$	13		Training management	7
	$[50-60[$	22		Others	8
	$[60-65[$	6	Your preferred academic disciplines are in the field of	Mathematics	6
				Physics	7
Your work in a host institution (number of students))				Biology	1
	Between 1000 and 10000	17		Chemistry	5
				Geology	8
				Humanities and Social Sciences	2
				Economy or management	8
	Between 10000 and 20000	19		Legal Sciences	3
				Others	18
	>20 000	5			

Table 8: MENFPESRS Programs

	1	2	3	4	5
Program N ° 01: Pilotage and governance					
PG1.Teaching rate	0	0	4	13	24
PG2.Administrative management rate	0	0	1	16	24
PG3.Cumulative deployment rate of information systems projects	0	0	1	13	27
Program N ° 02: Higher Education					
ES1.Evolution of the number of students enrolled	0	0	0	12	29
ES2.Rates of use of carrying capacity	0	0	0	12	29
ES3.Percentage of vocational courses in open access schools	0	0	0	11	30
ES4.Percentage of students enrolled in vocational courses in open access institutions	0	0	0	11	29
ES5.Percentage of students enrolled in vocational programs	0	0	3	13	23
ES6.Percentage of graduates by length of graduation (per cycle)	0	0	2	4	25
Program N ° 3: Scientific and Technological Research					
RST1.Number of doctoral theses supported	0	0	1	11	21
RST2.Number of publications in indexed international journals	0	0	1	11	21
RST3.Number of co-publications with foreign partners	0	0	1	11	21
RST4.Percentage (%) of doctoral students receiving scholarships for excellence who support their theses	0	0	1	11	21
RST5.Number of research and innovation projects conducted in partnership with companies	0	0	1	11	21
RST6.Number of innovative companies created within the framework of the Morocco Network Incubation and Spinning (RMIE)	1	0	3	10	27

DOI: 10.31695/IJASRE.2019.33533

RST7.Number of patents filed by universities	0	0	3	12	26
RST8.Number of analyzes and measurements carried out by the Technical Support Units for Scientific and Technical Research (UATRS)	2	0	1	13	25
RST9.Number of articles downloaded from the databases available at the Moroccan Institute of Scientific and Technical Information (IMIST)	0	0	2	12	27
Program N ° 04: Social Support for Students					
ASE1.Evolution of scholarship students per cycle	0	1	6	17	17
ASE2.Evolution of the number of beds	38	3	0	0	0
ASE3.Rates of satisfaction with new requests for accommodation	38	3	0	0	0
ASE4.Number of meals served per year	35	6	0	0	0

Table 9: Attributes of performance (Organic Law n ° 130-13 relative to the law of Finances)

	1	2	3	4	5
P1. Enhancing transparency	0	0	4	12	25
P2. Improving the efficiency and effectiveness of public spending	0	0	4	11	26
P3. Increasing managerial accountability	0	0	4	13	24

Table 10: Headcount by Sex

Sex				
	frequency	%	Percentage valid	Cumulative percentage
Female	7	17	17,1	17,1
Male	34	82,9	82,9	100,0
Total	41	100,0	100,0	

NB: In the sample participants 82.9% were men.

Table 11: Age Range

	Frequency	**%**	**Percentage valid**	**Cumulative percentage**
[40-50[	13	31,7	31,7	31,7
[50-60[	22	53,7	53,7	85,4
[60-65[	6	14,6	14,6	100,0
Total	41	100,0	100,0	

NB: 68.3% of the managers participating in the survey are over the age of 50.

Table 12: Academic prediction disciplines are in the field

%	**Frequency**		**Percentage valid**	**Cumulative Percentage**
Chemistry	6	14,6	14,6	14,6
Economy or management	7	17,1	17,1	31,7
Mathematics	1	2,4	2,4	34,1
Biological sciences	5	12,2	12,2	46,3
Humanities and Social sciences	8	19,5	19,5	65,9
Legal sciences	2	4,9	4,9	70,7
Physical sciences	8	19,5	19,5	90,2
Geology	3	7,3	7,3	97,6
Computer sciences	1	2,4	2,4	100,0
Total	**41**	**100,0**	**100,0**	

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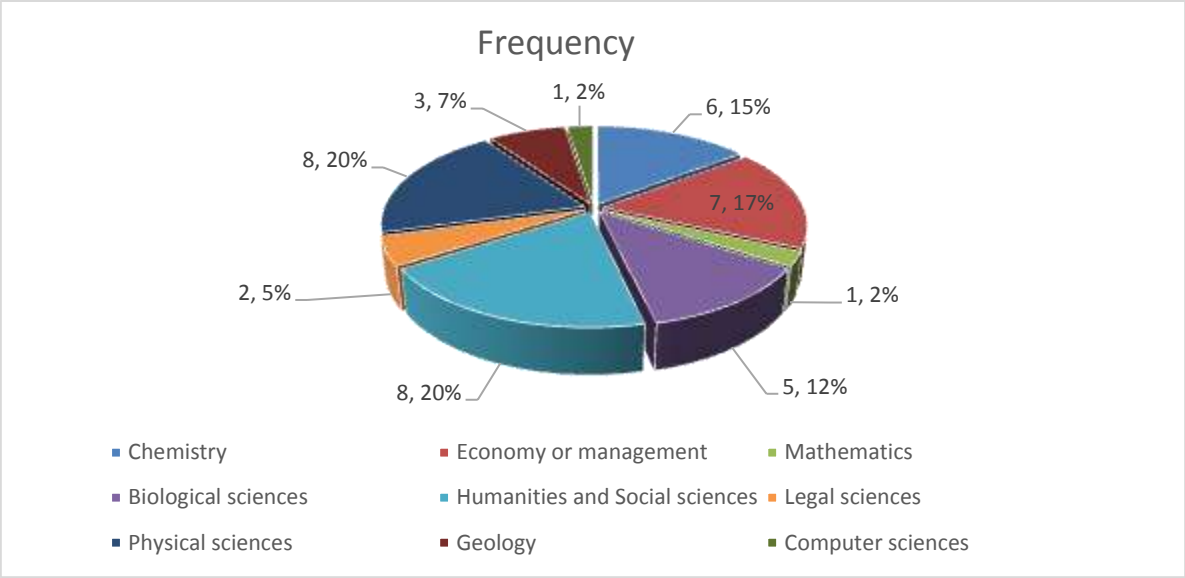

Figure 2: Distribution Camembert by Discipline

NB: 58.53% of participants have a scientific background

Table 13: Occupied functions

	Frequency	**Frequency %**	**Valid Percentage**	**Cumulative Pourcentage**
Institutional Management	18	43,9	43,9	43,9
Institutional Management, Training Management	8	19,5	19,5	63,4
Institutional Management, Training Management, Laboratory Management	7	17,1	17,1	80,5
Institutional Management, Research Laboratory Management	8	19,5	19,5	100,0
Total	41	100,0	100,0	

NB: 80.49 % of managers carry out activities other than establishment management

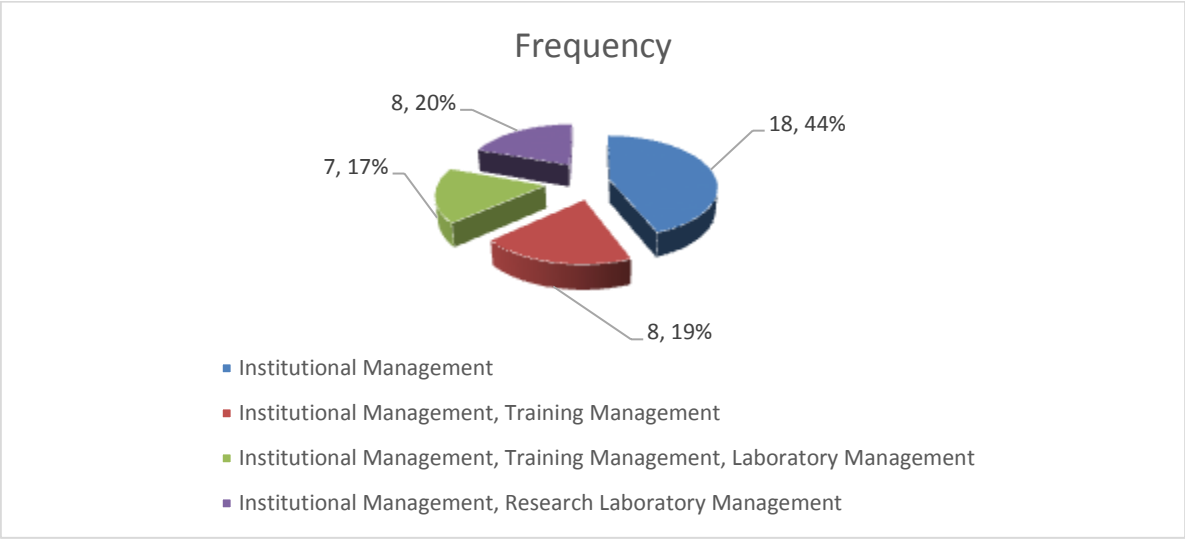

Figure 3 : Distribution of staff by type of responsibilities

DOI: 10.31695/IJASRE.2019.33533

5.1. Validity and reliability of measurement scales for variables:

5.1.1. Validity and reliability of measurement scales for dependent variables:

Verification of the measurement quality of the concepts in our research model is based on principal components analysis (PCA) and Cronbach's alphas coefficients. The dependent variable, performance, is measured by three coded items, P1, P2, P3 (see Table 8 above). To verify the factorization of the three items, we examined the KMO and Bartlett tests.

The analyses conducted indicate a KMO value greater than 0.50. Bartlett's sphericity test has a satisfactory khi-two. This result leads us to reject the hypothesis of simultaneous nullity of all correlations. The principal components analysis conducted on the three items measuring performance indicates that a single factor axis with a proportion of the total variance greater than 100/3% (3 being the number of items) is taken into account. This factorial axis explains more than 78% of the variance achieved.

Table 14: KMO Index and Bartlett test

Kaiser-Meyer-Olkin index for sampling quality measurement.		,649
Bartlett's sphericity Test	Khi-carré approx.	63,606
	Ddl	3
	Signification	**,000**

The analyses conducted indicate a KMO value greater than 0.50. Bartlett's sphericity test has a satisfactory khi-two.

Table 15: total Variance explained in the performance P1, P2, P3.

component	Initial Eigen values			Sums extracted from the square of the loadings		
	Total	% of variance	% cumulative	Total	% of variance	% cumulative
1	2,350	78,349	78,349	2,350	78,349	78,349
2	,483	16,108	94,456			
3	**,166**	**5,544**	**100,000**			

Extraction method: Principal Components Analysis.

The component matrix, which explains the factorial contributions, shows that the four statements have a correlation greater than 0.5 with the first axis (see Table 15 below).

Table 16: matrix of performance scale components

Items	**Factorial axis N°1**
Enhancing transparency	0,889
Improving the efficiency and effectiveness of public spending and the quality of service to citizens	0,821
Increasing managerial accountability	0,942

Extraction method: Principal Components Analysis

extracted components.

Since the one-dimensional measurement scale was verified, Cronbach's alpha was used to assess its reliability. This coefficient, with a value of 0.860, helps to guarantee the internal consistency of the scale.

Table 17: total elements Statistics

	Scale mean if item deleted	**Scale Variance if item deleted**	**Full correlation of corrected items**	**Square of multiple correlation**	**Cronbach's Alpha when deleting the item**
Enhancing transparency	9,02	1,524	0,734	0,654	0,805

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Improving the efficiency and effectiveness of public spending and the quality of service to citizens	9,00	1,650	0,635	0,454	0,894
Increasing managerial accountability	9,05	1,398	0,846	0,736	0,696

5.1.2. Validity and reliability of measurement scales of independent variables:

In order to study the reliability and validity of the independent variables, we will use cronbach's alpha, which measures the internal coherence of a scale constructed from a set of items. The principle process is based on reducing the number of initial items contained in the scale according to the value of the alpha coefficient in order to increase the reliability of the measurement of the construct.

The value changes between 0 and 1 and the results are better when alpha is close to 1. In general, values greater than or equal to 0.7 are accepted.

The exploratory factor analysis and the validity and reliability tests are used to purge the scales of measurement of the four explanatory variables, namely Piloting and Governance, Higher Education, Scientific and Technological Research, and Social Support to Students.

Table 18: reliability analysis of performance programs

Performance programs	Cronbach Alpha
Steering and governance	0,775
Higher Education	0,885
Scientific and technological research	0,927
Social support for students	0,257

Table 19: list of variables and items eliminated

Performance programs	Items éliminés
Steering and governance	-
Higher Education	-
Scientific and technological research	-
Social support for students**	ASE1*, ASE2*, ASE3*, ASE4*
LOLF Performance	-

* : Item eliminated from the model

** : Latent Variable eliminated from the model

Based on this analysis, our model will be composed of six variables (three variables related to performance programs and three variables related to LOLF performance) which are : the strengthening of transparency, the improvement of the efficiency and effectiveness of public spending and the quality of service rendered to citizens which increases the accountability of managers for lolf performance and piloting and governance, Higher Education and scientific and Technological Research for the performance programs of the MENFPESRS.

DOI: 10.31695/IJASRE.2019.33533

Table 20: Summary of models b

Model	R	R-two	R- two adjusted	Standard error of estimate	Edit statistics					Durbin-Watson
					Variation of R-two	Variation of F	ddl1	ddl2	Sig. Variation of F	
1	0,911[a]	0,829	0,815	0,25653	0,829	59,817	3	37	0,000	2,326

a. Predictors: (Constant), Scientific and Technological Research, Steering and Governance, Higher Education

b. Dependent variable: PERFORMANCE.

The table, therefore, contains a number of useful information. First, the value of the multiple correlation (R) corresponds to the aggregation of points in the multiple regression. It represents the strength of the relationship between performance and programs. Values of 0.829 and 0.815 suggest that the data are fit to the model satisfactorily, meaning that 82.9% of the variance in performance is explained by the programs and that the fit quality is very good.

Table 21: Analysis of variance (ANOVA)

Model		Sum of squares	Ddl	Average square	F	Sig.
1	Regression	11,809	3	3,936	59,817	**,000[b]**
	Student	2,435	37	,066		
	Total	14,244	40			

a. Predictors: (Constant), Scientific and Technological Research, Steering and Governance, Higher Education

b. Dependent variable: PERFORMANCE.

It can be seen from the table that the F value obtained for the model can reject the null hypothesis. Indeed, the value of 59.81 is significant at $p < 0.001$, indicating that we are less than 0.1 % likely to be wrong in asserting the model's performance (LOLF).

Table 22 : Coefficients

Model		Non-standardized Coefficients		standardized Coefficients	t	Sig.	95.0% confidence interval for B		Correlations		
		B	Standard error	Bêta			Lower post	higher post	Simple Correlation	partial	partial
1	(Constant)	-1,37	0,48		-2,87	0,01	-2,34	-0,40			
	Steering and Governance	1,00	0,12	0,73	8,00	0,00	0,75	1,25	0,89	0,80	0,54
	Higher Education	0,04	0,20	0,03	0,18	0,86	-0,37	0,44	0,70	0,03	0,01
	Scientific and Technological Research	0,27	0,17	0,23	1,60	0,12	-0,07	0,60	0,71	0,25	0,11

From the obtained results (CF. table 22 relating to the results of estimation of the coefficients of the performance regression equation), the final regression equation, including the significant variables, can be written as follows:

Performance = 0,73 PG+0.,03 ES + 0,23 RST+ e

Examination of the regression coefficients shows that:

1) The three variables selected have different weights in the regression equation. The coefficients, which make it possible to evaluate the explanatory power of each variable on performance, are all significantly different from zero, at the level of significance of 5%.

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According to the results (cf., table 22 above), it should be noted that the three input variables all have the value of T Student, which is higher than the threshold of 1.96 (which explains the positive impact of the explanatory variable on the variable to be explained) ; The coefficient of multiple regression standardized called (beta) which has a power in the explanation of the performance is as follows :

- The variable piloting and governance positively impacts the collaboration with .73, and contributes to 73 % of the explanation of the performance.

- The variable higher education positively impacts the collaboration with 0.03, and contributes to 3 % of the explanation of the performance.

- The scientific and Technological Research variable positively impacts performance with 0.23, and contributes almost 23% of the explanation of performance.

6. CONCLUSION

The study assessed the relationships between the different variables in the research model using multiple regression analyses. The hypothesis test carried out on the sample of 41 observations yielded quite different results.

Indeed, based on an initial analysis of the results obtained using the questionnaire, we found that the relationship between performance and programs is explained to the extent of 91.1% and that the quality of adjustment is very good (R2 = 82.9%) and that the performance objectives, namely increased transparency, improving the efficiency and effectiveness of public spending and the quality of service to citizens and Increased accountability of managers can be done with the help of the program Steering and Governance, higher education, scientific research and technology and that the program of social support for students can be improved by adding more indicators representative at the level of academic institutions (Ex : student success and quality of training, qualification of students admission, student life, etc.). Generally, managers of public universities are imbued with a culture of performance which greatly influences their ways of managing and deciding. Thus, they have opted for tools that are adapted to this reality.

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