

# A CONSOLIDATED MODEL OF ANALYSIS OF THE RELATIONS BETWEEN POLITICS AND MANAGEMENT WITHIN PUBLIC ORGANIZATIONS

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## *Abstract:*

*An interdisciplinary approach which combines the theoretical, empirical and conceptual dimensions, the present study tries to offer a new work perspective on the assessment and modeling of the relation between the management of public organizations and the political environment. The theoretical research was centered on reviewing the literature on the relation between the management of public organizations and the political environment. The empirical research was materialized by modeling with the regression technique of several aspects integrated to the relations between the management of human resources within public organizations in the education field and the external political environment.*

*Keywords: public management, politics, model of analysis, organizational environment.*

## **Public organizations and the external environment**

The increase in public organizations' efficiency directly involves public managers, members of parliament, theorist, stakeholders who must answer a series of questions. These questions refer to a wide area, moving from finding the method to attract, keep and develop best quality human resources within the public sector, to specifying public managers' role as regards the efficient use of public employees within public institutions and authorities.

Public services administrators have the difficult task of dealing with the organizations at the head of which they were named or reached through competition, but also the responsibility of facing the changes and challenges of the organization's external environment. Public employees in leading positions

thus act as agents between the needs of the organization on the one hand and the challenges and inputs of the external environment on the other hand. The most dynamic environment thus produces a high degree of uncertainty for the public organization, and especially for the position of the persons in leading positions who must face the incertitude related to the duration of their mandate, in some cases this corresponding to the duration of an electoral cycle. Researchers have identified different measures to characterize this phenomenon. Thus, the *instability of the political environment* can be considered a variable which represents the degree of turbulence, unpredictability, dynamism or change within a public organization's political environment (Maguire, 2003, p. 134).

The external organizational environment can offer both opportunities and challenges for managers (Lakhdar Sekiou *et al.*, 2001, p. 451; Fred A. Kramer, 1981, pp. 7-15). This statement is valid for all types of organizations, including public ones, the external environment could materialize in several categories of factors which influence the evolution of the organization, such as, for instance, political, governmental and legal factors, economic, social-cultural, technological factors (Tudor Nistorescu, Cătălina Sitnikov, 2003, pp. 45-50).

Hal G. Rainey explored the influence of the political and institutional environment over public organizations, considering it a fundamental concept in his study (Rainey, 2009, p. 89). However, Rainey considers that although organizational environment has been intensively studied, because of its complexity, complications and difficulties, because of the governmental structures in which public organizations find themselves, and taking into account the human factor, one has not yet shaped an exact science within management for its study (Ibidem, pp. 89-90). As such, in order to elucidate a significant part of the complexity in the analysis of organizational environment, Hal Rainey (2009) proposes to group the factors which influence the activity of the organization in technological, legal, political, economic, ecological demographic and cultural conditions. The author chose to refer to socialism, comunism, capitalism, degree of centralization, fragmentation or federalization in terms of general form of government.

Richard Scott noted in 1998 that there is an interdependency relation among organizations and the environments, a relation materialized in several senses. The author produces arguments in favour of his statement by saying that the organizations select the environment in which they act which could suffer changes through the turns

in the actors' perception, while the environment influences the organization and its outputs which, in their turn, influence the actors' perceptions and decisions (Richard Scott, 1998).

Lakhdar Sekiou, Louise Blondin, Bruno Fabi, Mohammed Bayad, Jean-Marie Peretti, David Alis, Françoise Chevalier have identified the sources of influence of the environments over the management of human resources. They have operated a distinction between the internal and external nature of influences. Thus, the influences of the external organizational environment were identified using the following criteria: economic (economic context, inflation rate, unemployment rate, interest rate, competition, fiscal policy), social-cultural (status, gender, impact of demographical changes, system of values, attitudes and beliefs), political-juridical (governmental laws and regulations, contracts with employees, role of the state), technological (state of innovation and research, diffusion of progress, effects of automatization), ethical (norms of personal conduct, norms of organizational conduct, norms of social conduct) (Lakhdar Sekiou *et al.*, 2001, p. 15).

### **Research design and the methodology followed**

In our research we considered necessary to consolidate a previous study<sup>1</sup> on the following aspect: the analysis of the evolution of the number of employees in the education field in relation to notable events originating in the political sphere – emanations of the executive and/or the legislative. Thus, one would expect that the most unstable and unpredictable periods and the electoral dynamics would also be the ones registering the highest values of the frequency of personnel changes. From a systemic point of view, the political-juridical, social, economic, technological, ethical environments influence the management of human resources within public organizations.

Thus, our approach becomes an exercise of showing in what manner the activity in the area of public employees' recruitment and selection is influenced by the challenges and opportunities of the political environment. Consequently, our research is aimed at analyzing the evolution of indicators of human resources acting in public organizations in the education field.

In order to quantify the research objectives, we considered necessary the use of the following couple of *theories*:

1. It is possible to identify a correlation between the variance in the values of specific indicators and some events and influences from the political sphere (adopting laws, budgetary regulations).

2. The higher the instability of the political environment, the higher the values of the change frequency of personnel within the organization.

Within an empirical research accomplished within American police agencies, Edward R. Maguire (2003) measures the instability of the political environment using the degree of changes of the personnel within public organizations (p. 134). At the same time the author analyses the evolutions in the political field which determined the change of persons who occupied leading public functions in the public sector. The author admits the inherent limitations of the procedure in the sense that, as changes of the leadership of public organizations are a consequence of the instability of the political environment, they cannot be at the same time a direct measure of the concept the researcher tries to prove scientifically.

Practically, it is possible that some periods of political instability register low levels of change, either due to the protection the respective public administrator benefits of, or the exceptional abilities to pass through political changes. Edward R. Maguire also highlighted the fact that each type

of explanation can be the source of error in measuring the instability of the political environment and expressed his desire that future studies be centered on identifying better measuring methods.

Thus one raises the question of concretely establishing the degree in which management decisions are influenced by the laws that govern public sector and which affect the organization's capacity to adapt to stakeholders' requests and to the evolution of the environment, without infringing normative regulations coming from the center (Androniceanu, 2008, pp. 204-205). The main issue we detect deals with the difficulty of launching normative acts in the rhythm in which each organization's environment evolves, in other words, in the rhythm of the inputs materialized in the citizens' needs, requests, the latter viewed as final beneficiaries of public services.

In this study we statistically analyze the influence of the political environment over a management process through regression technique using MS Excel. We chose to continue the use of regression technique as it is the most commonly used modeling method by researchers in order to statistically highlight the relation among a dependent variable and a series of independent (explanatory) variables.

### **Research questions**

In order to guide our approach of making a rigorous empirical analysis of the influence of the political environment over the management of public organizations, we have established a set of research questions. Thus, our research has to answer these questions we have posed in a disciplined manner. Research questions have become narrower, a good research question being limited as thematic area and empirically testable. We have limited to a couple of questions:

- 1: In what measure budgetary regulations of the legislative represent

limitations on the management of human resources in public organizations acting in the education sector?

2: Which is the variable that can predict in the greatest extent the values of the number of employees in education?

### **Building variables and launching hypotheses**

The model we use in this study tests the relation among a dependent variable and three independent variables during a 14 years interval between 1996 and 2009. The economic-financial situation which reflected in the public sector mostly beginning with 2009 strengthens our approach regarding the building of a model centred on the dimension of the instability of the external political environment. The dependent variable is operationalised in this study through the average annual number of employees during 1996-2009. We thus use the dependent variable *number of employees in education* in the analysis of the influence of external factors over a human resources management process which we can define as attracting by public organizations the necessary human resources in order to accomplish their tasks or to deliver public services etc.

With the first independent variable we wished to capture the effects of governmental interventions in remunerating public employees. The relevance of operationalising the variable *salaries* through the indicator *average monthly net earnings* in the education sector during 1996-2009 was confirmed while consulting the study of three researchers, Jared J. Llorens, Jeffrey B. Wenger, J. Edward Kellough ("Choosing Public Sector Employment: The Impact of Wages on the Representation of Women and Minorities in State Bureaucracies", in *Journal of Public Administration Research and Theory*, Oxford University

Press, Nr. 18, 2007, pp. 397-413). They built a model to explain the impact of salaries on the representation of women and minorities in the public sector (the dependent variable) using political ideology, economic development (measured through the indicators gross domestic product by state and income per capita), unemployment rate, union membership, differences between state level of salaries and in the private sector as factors for the explanation of the variance. We use this variable for its political implications, as a measure of governmental and legislative intervention over the level of salaries, benefits and working conditions (Kramer, 1981, p. 12), and employees' contracts (Lakhdar Sekiou *et al.*, 2001, p. 15). We may thus launch a first work hypothesis. The purpose of our research is thus centered on validating the emitted hypothesis and invalidating the null hypothesis.

*Hypothesis 1: There is a relation between the number of employees in education and the level of salaries in this domain.*

*Null hypothesis 1: There is no association between the level of salaries and the number of employees in education.*

The second independent variable with which we continue to work is *competition for resources*. In this sense we strictly refer to budgetary resources allocated to education through acts of the legislative and the executive (more precisely to budgetary constraints which allow the use of the metaphor of a competition for resources which engages all organizations functioning based on the allocation of funds from state budget) which, obviously, determines the activity of our target organizations. This control over the budget makes resource allocation turn into a process suspected by political influences (Ana-Raluca Alecu în Mihai Păunescu, 2008, p. 171).

We met this type of dimension of the external environment Hal J.

Rainey's work (*Understanding and managing public organizations*, John Wiley and Sons, 2009, p. 95), who relays to the researches of the external organizational environment accomplished by Dess and Beard in 1984 and Aldrich in 1979. The first two researchers refer to this measure of the external environment using the term "generosity" which they explain through the following definition – "the existence of necessary resources" (see Rainey, 2009, p. 95), while Aldrich (1979) uses the concept of "capacity", which he defines as "the measure in which the external environment allows a rich or poor offer of necessary resources" (Ibidem, p. 95).

Thus, we have operationalised the variable *competition for resources* under the form of national spending with education, as revealed by budgetary resources granted to education according to the laws regarding the annual state budget, but also the governmental emergency ordinances regarding the rectification of the state budget. Although one may notice the fact that the annual value in absolute number of the budget granted to education during 1996-2009 grew, the increase is stronger following 2006, reaching in 2007 a value four times greater than the previous year. This strong increase can be explained through the inclusion in state budget of Romania's obligations as Member State of the European Union, but also of the financing possibilities through the attraction of European funds. The peak is reached in 2008 when the budget for education reaches 9688,9 million lei, being rectified through an emergency ordinance it becomes 9259,4 million lei. However, in 2009, on the grounds of the economic downfall, the sum granted to education decreases significantly under the sum granted in 2007. At this point we may launch the second work hypothesis, to which we associate the null hypothesis.

*Hypothesis 2: We can highlight a strong association between competition for resources and the number of employees in education.*

*Null hypothesis 2: There is no association between budgetary constraints and the dependent variable.*

For the third independent variable we called *density of education units* we took as a model the dimension of the organizational environment called *concentration-dispersion*<sup>ii</sup> by Aldrich in 1979. The option for this variable was made after reading Law No. 329 of November 5<sup>th</sup>, 2009 regarding the re-organization of public authorities and institutions, the rationalization of public expenses, supporting the business environment and the respect of the framework-agreements with the European Commission and the International Monetary Fund which stipulates under Art. 3 the following measures of re-organization for public institutions and authorities: "a) the elimination of public authority or institution as a consequence of merging and having taken over its activity by another existing public authority or institution; b) the elimination of the public authority or institution as a consequence of merging and having taken over its activity by a newly-established compartment within other public authorities or institutions; c) the elimination of public authorities or institutions as a consequence of fusion and the constitution of a new legal person; d) the elimination of a public authority or institution as a consequence of division and having taken over its activity by two or several existing entities or thus being created; e) the decrease in positions within public authorities or institutions; f) the change of the financing regime of some public authorities or institutions, by transferring the incomes collected to state budget and financing expenses from state budget." The number of education units per year is the indicator

used to operationalise this independent variable.

*Hypothesis 3: One can identify a strong association between the independent variable density of education units and the dependent variable number of employees in education.*

*Null hypothesis 3: There is no association between the density of education units and the number of employees in education.*

### Interpreting the results Descriptive statistics

In this section we will list the variables and indicators used in order to

validate the three hypotheses we launched in the previous section. Table 1 presents the descriptive statistics associated to the variables and the source of data, both for the dependent variable, and for the independent variables. We have noted in the table on column 4, 5, 6 and 7 the results of the descriptive statistics which render the minimum, maximum, average values and, respectively, the standard deviation and on column 8 the sources of the data used for all four variables. In figure 1 we have graphically represented the variance of the variables built for empirical research.

**Table 1**

**Descriptive statistics and source of data for all variables**

Concept (1)	Variable (2)	Indicator (3)	Min (4)	Max (5)	Medi a (6)	S.D. (7)	Source of data used in research (8)
Management process	NUMBER OF EMPLOYEES	Average annual number of employees	381 (2004,2005)	432 (1996)	400,07	16,05	Romanian Statistical Yearbook, Edition 2010
Instability of political environment	SALARIES	Average annual net earnings	27,55 (1996)	1596 (2009)	609,37	545,74	Romanian Statistical Yearbook, Edition 2010
	COMPETITION FOR RESOURCES	Annual budget allocated for education	300,47* (1996)	9688,9 (2008)	2881,64	2877,16	Law no. 29/1996, Law no. 72/1997, Law no. 109/1998, Law no. 36/1999, Law no. 76/2000, Law no. 216/2001, Law no. 743/2001, Law no. 631/2002, Law no. 507/2003, Law no. 511/2004, Law no. 379/2005, Law no. 486/2006, Law no. 388/2007, Law no. 18/2009**.
	DENSITY OF EDUCATION UNITS	Number of education units per year	7819 (2009)	27558 (1996)	19350,4	7948,4	Romanian Statistical Yearbook, Edition 2010

\* The numbers take into account the denomination of July 1<sup>st</sup>, 2005.

\*\* The analysis was accomplished based on the values of the budget allocated to education expressed in the laws regarding state budget, but also in the governmentat emergency ordinances regarding the rectification of state budget .G.O. no. 13/1996, G.O. no. 14/8.08.1997, G.O. no. 14/18.09.1998, G.O. no. 48/8.12.1998, G.O. no. 260/2000, G.O. no. 27/2001, G.O. no. 144/31.10.2002, G.O. no. 48/2004, G.O. no. 91/2004, G.O. no. 154/2005, G.O. no. 32/2006, G.O. no. 112/2008.

According to the Romanian Statistical Yearbook and the National Institute of Statistics, the average number of employees represents “a simple arithmetic mean resulted from the sum of daily employees number, including from the weekly rest days, legal holidays and other non-working days divided to the total calendar days of the year (365 days). Employees who were not employed in full time are included in average number of employees, proportionally with the working time from the labour contract” (National Institute of Statistics, Romanian Statistical Yearbook, Edition 2009, section *Labour market*, p. 114). In the Statistical Yearbook “the net nominal earnings is calculated by subtracting from gross sums related to gross nominal earnings the following elements: afferent tax; employees contribution to unemployment insurance budget; individual contribution to state

*social insurance; employees contribution to health insurance”* (National Institute of Statistics, Romanian Statistical Yearbook, Edition 2009, section *Population income, expenditure and consumption*, p. 279). Also, the Statistical Yearbook (Edition 2009) does not include organizations acting in the domains of education and health within the economic sphere since these organizations do not carry out “a commercial activity” (National Institute of Statistics, Romanian Statistical Yearbook, Edition 2009, section *Enterprise activity*).

### **Correlations analysis**

**Table 2** presents the matrix of correlations among the dependent variable (*Number of employees*) and the independent variables (*Salaries*, *Competition for resources* and *Density of education units*) and among the independent variables themselves.

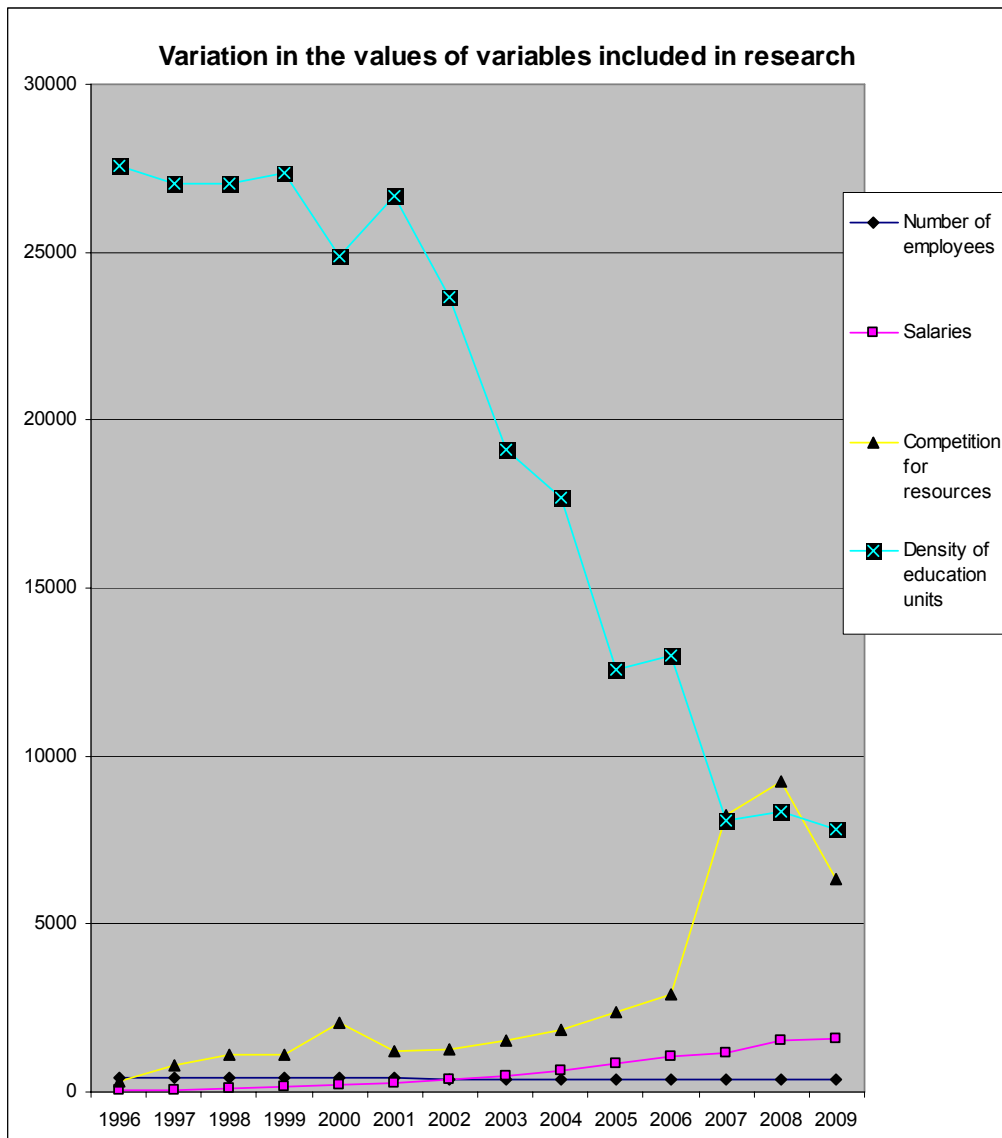
**Table 2**

**Matrix of correlations among variables\***

	NUMBER OF EMPLOYEES	SALARIES	COMPETITION FOR RESOURCES	DENSITY OF EDUCATION UNITS
NUMBER OF EMPLOYEES	1,00	-0,642792	-0,373676	0,697437
SALARIES	-0,642792	1,00	0,881976	-0,968354
COMPETITION FOR RESOURCES	-0,373676	0,881976	1,00	-0,851947
DENSITY OF EDUCATION UNITS	0,697437	-0,968354	-0,851947	1,00

Note:  $n$  (number of observations) = 14; Table 2 presents the values of Pearson's correlation coefficient ( $r$ ) for the correlations among the dependent variable and the three independent variables taken two by two. The values of Pearson's coefficient vary between  $-1$  and  $+1$  and indicate the intensity and direction of the association. The value of  $r$  equals 1 if we correlate one and the same variable, which means that the variable is perfectly associated with itself.

\*In our calculations we have used significance levels (Significance F)  $p < 0,01$ . Significance F is an indicator which shows if the calculated value for the correlation coefficient is statistically relevant for the entire population.



**Figure 1. Variance in the values of variables included in the research**

(Source: National Institute of Statistics, Romanian Statistical Yearbook, Edition 2010 and the laws regarding state budget, but also the governmental emergency ordinances regarding the rectification of state budget).

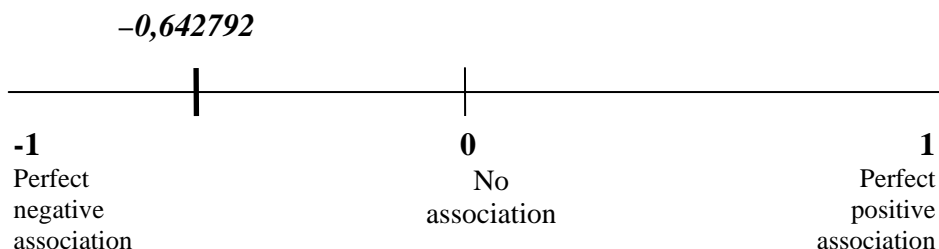
We have noted for each cell of the correlation matrix (Table 2) the value of Pearson's correlation coefficient ( $r$ ) calculated through bivaried correlations among the dependent variable (placed on the first column/first row) and each of the independent variables and among the independent variables themselves. We are interested in obtaining some

values as close as possible to  $\pm 1$  for Pearson's correlation coefficients calculated in order to conclude as regards the validity of the three hypotheses formulated in the previous section. However, one must also keep in mind the fact that this coefficient can show only the intensity in regressions and correlations, not the directions



(which of the variables exercise the influence), which requires a supplementary effort for the researcher who has to choose carefully the dependent and independent variables. Returning to our model, as the value of Pearson's coefficient of correlation ( $r$ ) for the

relation between the dependent variable (*number of employees*) and the independent variable *salaries* is  $-0,642792$ , we could interpret this result in the following manner: there is a relatively strong negative association between variables (Figure 2).

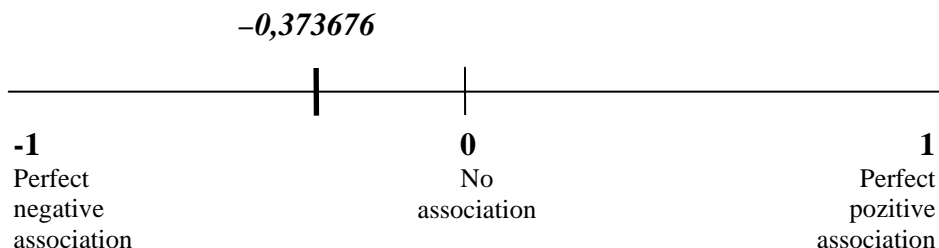


**Figure 2. Interval in which the correlation coefficient for the variables *number of employees* and *salaries* varies**

On the other hand, a rather weak association can be highlighted between the dependent variable *number of employees* and the independent variable *competition for resources*, as  $r = -0,373676$  (Figure 3).

These results may seem paradoxical. However, they cannot be read and interpreted according to the factors specific to an efficient market economy. The public sector does not act as a private company within a market economy based on competition, on the relation between demand and offer. The

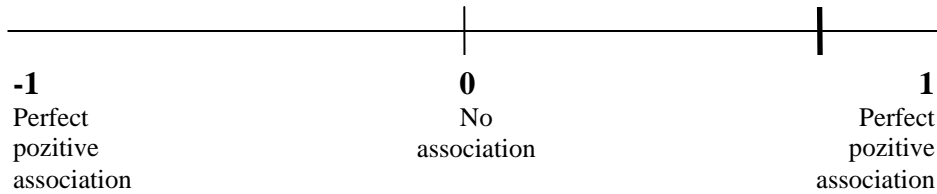
Romanian public sector is still in the process of learning the principles of efficiency and performance<sup>iii</sup>. It seems as though the present economic situation highlights the weaknesses of the management of public organizations and the influences of politics over it. One witnessed the appearance and spread of a rhetoric which highlights the difficulties existing in the public sector, shows the flaws in the management of human resources, and signals the outsize of the personnel employed within public organizations.



**Figure 3. Interval in which the correlation coefficient for the variables *number of employees* and *competition for resources* varies**

On the other hand, in the case of the correlation between the dependent variable *number of employees* and the independent variable *density of education units*, the value of Pearson's

correlation coefficient is  $0,697437$ , thus we can note the existence of a strong direct/positive association between the two variables (Figure 4).



**Figure 4. Interval in which the correlation coefficient for the variables *number of employees* and *density of education units* varies**

### **Multicolinearity analysis**

The correlation matrix (Table 2) has revealed a situation which partially confirms our expectations: the dependent variable is relatively strongly associated (even if directly/positively or indirectly/negatively) with two of the three independent variables (with *salaries* and with *density of education units*). However, we must notice high values of Pearson's correlation coefficient also associated to the relations among the three independent variables taken two by two. Returning to the analysis of the correlation matrix, we are searching for high values associated to the correlation coefficient we calculated in order to see whether the three independent variables are also correlated. Thus, we will search for proof in favour of multicollinearity. At this point we are only interested in the intensity of the association. The model indicates the strongest association between two independent variables *salaries* and *density of education units*, since  $r = -0,968354$ , followed closely by the value of the correlation coefficient between *competition for resources* and *density of education units* (with  $r = -0,851947$ ) and between the *competition for resources* and *salaries* ( $r = 0,881976$ ) (Table 2).

### **Regression analysis**

In this section we use regression technique in order to subject the three hypotheses to empirical validation and

consolidate a model of relations among three independent variables and one dependent variable.

The equation  $Y = a + \beta_1 * X_1 + \beta_2 * X_2 + \dots + \beta_p * X_p$  is called multiple regression equation, where  $Y$  is the dependent (explained) variable which can be expressed in the terms of a constant  $a$  and a slope  $\beta$ , named regression coefficient or coefficient  $\beta$  multiplied with  $X_1, X_2 \dots X_p$  variables. These variables are a multitude of  $p$  independent (explanatory) variables, and  $\beta_1, \beta_2 \dots \beta_p$  are a multitude of  $i$  regression coefficients.

A  $\beta_i$  coefficient has the following interpretation: by modifying with one unit the value of  $X_i$  variable it produces a change in the value of  $Y$  dependent variable with  $\beta_i$  units. Within this regression equation,  $\beta$  regression coefficients represent the contributions of each independent variable to the prediction of  $Y$  dependent variable. In other words,  $X_i$  independent variable is correlated to the  $Y$  dependent variable after all the other dependent variables were controlled. It results that by introducing values in the regression equation for the  $X_i$  independent variables one obtains the estimated value for the  $Y$  dependent variable.

The resulted model following the application of the regression technique is based on a number  $n$  of 14 observations of all the four variables.

**Table 3**

**Results of multiple regression**

Regression Statistics	
Multiple R	0,816844
R Square	0,667234
Adjusted R Square	0,567405
Standard Error	10,5597
Observations	14

\*p < 0,01

Note: Table 3 presents the general statistical results associated to multiple regression analysis. In the table we have noted the value of the multiple correlation coefficient R, the value of the coefficient of determination R Square, calculated as a square of the multiple correlation coefficient. The latter can be interpreted as the proportion of the variance in the dependent variable explained by the variance in the independent variables<sup>iv</sup>. Consequently, the changes in the values of the dependent variable Number of employees are explained by the variances of the independent variables in a proportion of 66,7%, certifying that there is a relatively strong association among the dependent and the three independent variables. The adjusted value of the coefficient of determination R Square is used in order to adjust the errors related to the value of R Square. The value of the standard error is a standard deviation of the residuals. The number of observations in the sample is 14, corresponding to the number of years in the period studied 1996-2009.

The independent variables based on which this model was built explain a proportion of 66,7% of the variance of the dependent variable, which is important, although the rest of 33,3% of the variance remains unexplained and has to be explained by asking appeal to other factors. Thus, we can state that it is possible to predict the number of employees in the education sector

knowing the value of annual incomes in this field, the value of budgetary resources allocated by the legislative and executive and the density of education units. However, this result makes us note that there might be other factors along the ones analysed which could explain the variance in the number of employees in education.

**Table 4**

**Variance analysis associated to the estimated regression**

ANOVA					
(1)	df (2)	SS (3)	MS (4)	F Test (5)	Significance F (6)
Regression	3	2235,855	745,285	6,68373	0,009385
Residual	10	1115,073	111,5073		
Total	13	3350,929			

Note: Table 4 presents the values of the analysis of the variance associated to the estimated regression into a ANOVA table. The first column represents the decomposition of total variance into variance explained by the regression and the unexplained residual variance. The second column represents the number of degrees of freedom. The interpretation of the values represented within the second column is:  $3=p-1$ ,  $10=n-p$ , and  $13=n-1$ , where  $p=4$  represents the number of the three independent variables and the constant, while 14 is the number of observations. The third column represents the square sums resulted following the decomposition. Consequently:

Global sum of squares =  $\Sigma$ (sum of squares due to regression; residual sum of squares).

The fourth column represents the average square sum and is calculated by dividing the values included in the third column to the values listed in the second column. The fifth column presents the result of the F test. The resulted value confirms the hypothesis according to which there is at least one coefficient whose value is different from zero and allows us to reject the

null hypothesis which states the contrary. The sixth column represents the unilateral critical probability and verifies the statistical relevance of the model for the entire population

**Table 5**

**Values estimated for the coefficients of the model and statistics of hypotheses validation**

(1)	Coefficients (2)	Standard Error (3)	t Stat (4)	P-value (5)	Confidence level	
					Lower 95% (6)	Upper 95% (7)
Intercept	345,0619	41,48677	8,317396	8,36E-06	252,6236	437,5002
Salaries	-0,00773	0,023894	-0,32359	0,752916	-0,06097	0,045507
Competition for resources	0,004792	0,00216	2,21852	0,050822	-2,1E-05	0,009606
Density of education units	0,002373	0,001477	1,606817	0,139175	-0,00092	0,005663

Note: Table 5 presents the values estimated for the coefficients of the model and the statistics for verifying the hypotheses. The difference towards the F test whose result is presented in the fifth column from Table 4 is the fact that at this level the tests on coefficients are individual. The results presented in Table 5 have to be interpreted taking into account the fact that the rows refer to the variables in the model, while Intercept represents the constant of the model. The second column of Table 5 presents the estimated values of coefficients, resulting the following estimated model:

$$Y=345,0619 -0,00773*X_1+0,004792*X_2+0,002373*X_3,$$

where Y is the Number of employees in education,

$X_1$  is Salaries,

$X_2$  is the Competition for resources,

and  $X_3$  is the Density of education units.

## Conclusions

Through theoretical and empirical research and by consolidating the previous model of highlighting the peculiarities of the relation between the political environment and the management of public organizations we have validated the theory according to which the existence of the different influences of the environment over public organizations is not simple speculation. However we feel that it would be necessary to continue the empirical research at the level of public administration in order to see whether the manner in which agencies and institutions are organized and managed validate the sensitiveness of political influences. It has been stated, however, that the most important aspect of organizational theories in the public sector is their effect on the manner in

which public managers relate to other people within their organizations (Kramer, 1981, p. 110).

A foray into the study of the dimensions and tendencies of employment within public organizations is relatively difficult because of the system of employment classification used by the National Institute of Statistics. Thus, the data supplied by the Romanian Statistical Yearbook for the period 1990-1991 include the employees from the central governmental apparatus in a wider sectoral category which also comprises the employees from regional and local level, occupations related to defence, as well as the suppliers of social assistance. However, this category does not include public employees from education and health, both sectors financed mostly from state budget (Nunberg, Barbara, Luca

Barbone, Hans-Ulrich Derlien, 1999, p. 67).

Moreover, the analysis over public employees is rendered more difficult by the decision to pass to the international norms of classification and definition of economic sectors, thus complicating the comparison of data before and after 1996, in the new classification of the National Institute of Statistics public administration sector becomes

administration, defence and compulsory social assistance (Nunberg, Barbara, Luca Barbone, Hans-Ulrich Derlien, 1999, p. 68). Thus, we have decided to limit our analysis to the period 1996-2009, for which we could gather the necessary data. It has resulted in a restriction of the period of study to 14 years. For the time being, this constraint has not affected the results of the empirical study.

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<sup>i</sup> The research presented in this paper was based on a previous article entitled “On the Relation between Public Organizations and Political Environment: an Empirical Study in the Field of Education” published in *Revista de Științe Politice / Revue des sciences politiques*, Universitaria Publishing House, Craiova, no. 23/2009, pp. 67–78 and was accomplished within the Doctoral School in Economic Sciences, Faculty of Economy and Business Administration, University of Craiova.

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<sup>ii</sup> For the exact definition we kindly advise the interested reader to consult Hal G. Rainey, *op. cit.*, p. 95.

<sup>iii</sup> In this sense we recommend the detailed analysis of the performance management applicable in the private sector developed in the article of Liviu Ilie , Emil Cri an, *Measuring Performance – A challenge for SMEs*, published by the *ERENET NETWORK*, Small Business Development Center, Corvinus University of Budapest, in *ERENET PROFILE*, January 2007, pp. 35-38, source: [www.erenet.org](http://www.erenet.org).

<sup>iv</sup> All explanations of the specific statistical terms used throughout the paper were accomplished by consulting the course of *Multivariate Statistics*, Paper no. 8 – *Multiple liniary regression – SPSS, Excel*, source: [http://profs.info.uaic.ro/~val/statistica/StatWork\\_8.pdf](http://profs.info.uaic.ro/~val/statistica/StatWork_8.pdf). Also, we have received strong support by consulting the volumes of Gerald J. Miller, Marcia L. Whicker (editors), *Handbook for research methods in public administation*, New York, M. Dekker, 1999 and Dennis Howitt, Duncan Cramer, *Introducere în SPSS pentru psihologie: versiunile SPSS 10, 11, 12 i 13*, translated by Andrei Popescu and Cristina Popa, Bucharest, Polirom, 2006.