

## **The Financial Impact of the Use of Relationship Marketing Principles in the Communication of Public Institutions**

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### **Abstract**

This study analyses the financial performance of public entities registered in the European Transparency Register based on their communication patterns and use of relationship marketing principles. The main objective of the article is to establish whether correlations exist between financial performance and the fulfilment of relationship marketing principles such as trust and commitment, as emphasized in the communication of the analysed institutions. By using bivariate analysis and multiple linear regression, a series of correlations are found and a model of prediction is developed. The research thus entails practical recommendations for public institutions, in view of improved performance and access to finances.

**Keywords:** Relationship marketing, communication, public institutions, financial performance.

**JEL classification:** L14, M31, N20, H83.

### **1. Introduction**

This paper studies the financial performance of public entities registered in the European Transparency Register based on their communication patterns and use of relationship marketing principles. The objectives of the research are as follows:

Objective 1: Analysis of public entities from the European Transparency Register in terms of the level at which they operate, their structure and the degree of use of the relationship marketing principles.

Objective 2: Statistical correlation analyses of the interdependencies between the use of relationship marketing by the entities analysed and their financial performance.

Objective 3: Performing linear regression analysis to test models based on trust and commitment for the public entities analysed.

### **2. Literature Review**

Relationship marketing is focused on the relationship, instead of the transaction. Strategic in nature and endowed with a long-term view and a „win”-„win” perspective (Grönroos, 1994), relationship marketing contrasts with traditional marketing, as it explores the nature of relationships and caters to the needs and desires of stakeholders (ibid.). On an imaginary marketing strategy continuum (Grönroos, 1991), relationship marketing can be placed at one

end of the continuum and transaction marketing at the other end (Pop, N. Al., Petrescu, E-C., 2008). The pillars of relationship marketing are primarily trust and commitment (Surej, 2019).

Commitment is at the core of relationship marketing research, as it is able to determine the success of a relationship marketing campaign (Addison, Lingham, Usley, & Lee, 2017; Miquel-Romero, Caplliure-Giner, & Adame-Sánchez, 2014; Moorman, Deshpande, & Zaltman, 2006; Morgan & Hunt, 1994; Ndubisi, 2007; Verma, Sharma, & Sheth, 2016). Trust, the delivery and fulfilment of promises, is the second pillar and it is, as such, indispensable for a healthy public sector climate and for the capacity to develop a relationship and let it mature (Churchill and Surpernant, 1982; Miquel-Romero et al., 2014; Morgan & Hunt, 1994; Moorman et al., 2006; Verma et al., 2016).

The authors analyse the variables of 'trust' and 'commitment' used in the communication of public institutions in their communication and efforts to relate with the society. Further on, they inquire into the existence of correlations between these variables and the financial performance of the said institutions. The bivariate correlation and the multiple linear regression were used as the tools for this inquiry.

Through the bivariate correlation, the authors researched the interaction between variables and the impact of variables on each other. This denotes how a variable may increase or decrease the value of another variable. The correlations presented below were chose based on the criteria emphasised in specialised literature, namely they have a result assurance level ('Sig.') of less than 0,0001 (i.e. more than 99 % probability), which means that the probability that these results have been achieved by hazard is particularly low. Sig = 0,05 denotes a 95 % probability, Sig = 0,03 denotes a probability of 97 %, sig = 0,01 denotes a probability of 99 % and Sig = 0,0001 a probability of 99.99 %. (Juster & Suzman, 1995; Kessler et al., 2004; Kreuter & Valliant, 2007)

Correlations were tested through the Spearman range-correlation test, which is known from specialised literature to be appropriate for non-parametric analyses of the correlation of variables that are not normally distributed. Spearman's coefficient is based on the relative position of one value relative to the others. This coefficient takes values between -1 and + 1 and is read in a special table for this type of coefficient, which does not contain degrees of freedom. (Angel & Gronfein, 1988; Clogg, 1992; Lee & Forthofer, 1989)

A Spearman coefficient equaling 0 indicated that the two variables do not vary concurrently (not linked between variables). When the coefficient equals 1,0 the correlation is positive and perfect and when it equals -1,0 the correlation is perfectly negative. A positive coefficient in the range  $0 > RS > 1$  shows that the two variables tend to move together in the same direction: when one grows, the other increases, or when one decreases, the other decreases. Conversely, if the coefficient is negative in the range  $-1 > RS > 0$ , the two variables move in the opposite direction. (Heeringa & Liu, 1997; Loayza et al., 2005; Rust, 1985; SAS Institute, 2008; Skinner, Holt & Smith, 1989; Waksberg, 1995).

Multiple linear regression was further used by the authors as a modelling method. The term multiple regression was originally used by mathematician Karl Pearson in 1908 to highlight the relationship between an endogenous (resultant) dependent variable and a multiplicity of exogenous independent variables (predictors). Thus, regression shows a model by which the resultant variable can be statistically predicted. In order for a linear regression model to be valid, the data is required to demonstrate the homoscedasticity quality, according to which variance of errors is maintained constant, i.e. variations along the regression line remain similar as they move along the line. (Begu, 2003; Chelcea, 1992; Draper & Smith, 1981; Graham, 1983; Ioan-Franc & Ristea, 2009; Kish, 1965; Korca & Tusa, 2004; McClave, Benson & Sincich, 2008; Moser, 1967; Oakes, 1986; Petrisor, 2012; Popa, 2015; Roman, 2003;

Rotariu, 1991; Rotaru, 1999; Snedecor & Cochran, 1989; Şandor, 2014; Skinner & Smith, 1989).

### 3. Results and discussion

Public institutions in France, Spain and Belgium are particularly successful in attracting European funds, whether from tenders or subsidies. The public institutions with the largest budgets are located in Germany, Spain, Sweden, Italy and France. From the point of view of the 'Eastern' European countries, the institutions that attract most EU funds come, in descending order, from Romania, Greece, Lithuania, Bulgaria and Poland. These funds come mostly from subsidies, with Romania being the only exception, with the modest tender contract of around EUR 90 000. No other public institution from an Eastern European country has attracted European funds from tenders until the date of the study. Apart from France and Germany, there is no link between the high absorption rate of European funds and the national financial performance of the institutions analysed.

The public entities stem from all European countries, however 70.1 % come from Belgium, Germany, France, Spain, Italy and the Netherlands. The distribution of values is not normal, as differences between values are large and data is asymmetrical. The dispersion is not normal because the values that the variable can take are outside the given range of the mean  $\pm$  two standard deviations. The median and the mean have strongly distant values for the annual budget. An average standard deviation of EUR 5 981 972 051 was calculated with SPSS. For the European funds absorption rate, the standard deviation is 7.5 %.

The Shapiro Wilk normality test has a significance of 0,0001, less than 0,05, in conclusion the assumption that the data is normally distributed is rejected. The non-gaussian distribution is economically sound. Budgetary resources and revenues of entities are unevenly distributed. Grants and tender contracts are distributed unevenly, depending on public procurement and calls for proposals. In the case of the absorption rate of European funds, the sample is small, namely 28 values corresponding to the 28 Member States, which reduces the possibility of a normal distribution.

From the point of view of the categories of the public entities sampled, half of them are "other public or mixed entities created in the public interest". 36.2 % of entities are regional and sub-national structures, while 13.4 % are transnational associations and networks of regional or sub-national public authorities. There is therefore a lack of purely national authorities (e.g. governments, parliaments, ministries), which indicates that the analysed entities are acting in a competitive environment where the need for funding and subsidies is high. Most of the analysed entities have an impact at regional and European level. More specifically, 57.9 % of these entities carry out activities with an impact at regional and local level, 51.6 % with impact at national level, 54.7 % have an impact at European level and 19.7 % of them a global impact.

It is interesting to note the hypothesis that the related European programmes, on which these institutions depend, deliberately favour the relationship between the European and regional and local entities, by moving beyond the national level, in order to avoid the tension of powers and authority. The technical level of project implementation could create the bridge between the European and regional/local levels, in order to cut red tape, be closer to the citizen, implement actions faster and avoid tensions of state sovereignty.

A total of 38.4 % of the entities analysed contribute to the production of goods, 96.3 % contribute to the provision of services and 13.8 % manage financial capital. This shows the overwhelming predominance of the provision of public or mixed services. It is interesting to note the extent to which these institutions contribute to green economy and ecology (53.3 %), social solidarity (56.3 %) and digitalisation (49.6 %). The authors conducted a frequency

analysis of the number of appearances of different relational marketing concepts in the descriptions assessed. According to their statements, the majority of institutions have modest contribution to the development of green economy, which seems disconnected from the current reality of policy priorities in Europe. The contribution to digitalisation and the degree of participation in society of the analysed institutions is surprisingly low. On the other hand, an outstanding performance is observable in terms of learning and innovation and purposeful action in society. The bivariate correlation analysis revealed a number of significant correlations, among which the most relevant are set out in Table 1 below.

*Table 1. Spearman correlations in descending order.*

<b>CORRELATION IDENTIFIED</b>	Value of Spearman coefficient for 99.9 % significance level (Sig < 0,01) and population N = 492
The degree of contribution to green growth and green economy and the degree of participation in society varies together in the same direction	.439
Financial performance and the direct reference to the concept of “image” vary together in the same direction	.174
Income from grants and direct reference to the concept of ‘relationship’ or ‘relational’ vary together in the same direction	.161
Financial performance and the direct reference to the concept of ‘commitment’ vary together in the same sense	.157
Capital management and the direct reference to the concept of trust vary together in the same sense	.156

Source: Authors’ research.

We note that financial performance varies in the same direction with commitment and image, while capital management varies in the same direction with trust. Income from grants varies in the same direction with the mention of relationship and relational aspects, which include trust and commitment by definition. Network building and networking capacity, as well as human capital (number of employees) who is able to invest in networking and lobbying campaigns, seem to bring a benefit in terms of increased access to subsidies. The degree of participation in society and the degree of contribution to green development and green economy are also strongly linked in a positive way.

In order to add further depth to the analysis, the authors performed a linear regression, between the dependent variable of trust and the variables obtained through a variable regression graph. After running the regression model, insignificant variables, for which Sig > 0,05, were removed from the analysis and the model was run again to ensure that all factors remain significant. The model provided a correlation coefficient  $R = 0,824$ , which indicates a positive relationship between the dependent variable and the independent variables, the two moving in the same direction (Table 2 below). Moreover, the ability of the model to predict the generation of confidence to the extent of approximately 66.5 % (adjusted correlation coefficient value) is observed.

*Table 2. Description of the multilinear regression model of the confidence variable.*

<b>Model Summary<sup>b</sup></b>				
Template	R	R Square	Adjusted R Square	STD. Error of the Estimate
1	.824a	.679	.665	.459

Source: Authors’ research.

The result of the ANOVA test presented in Table 3 below shows that the model has statistical significance above 99 % because the significance value ('Sig.') is 0,0001 and implicitly below the threshold of 0,05. Note that Sig =.000 in the SPSS programme is requested to be read as Sig =0,0001, this is the case for all tables in this chapter generated with the SPSS.

**Table 3. ANOVA table for the confidence variable model.**  
*ANOVA<sup>a</sup>*

Template		Sum of squares	DF	Square mean	F	SGL
1	Regression	206.470	21	9.832	46.691	.000 <sup>b</sup>
	Residual	97.497	463	.211		
	Overall	303.967	484			

Source: Authors' research.

We can also see in Table 4 below the independent variables in the model that are significant (Sig. < 0,05), in order to determine which variables can be used as predictors of trust generation.

**Table 4. Coefficients of the regression model for the variable 'Trust'.**  
*Coefficients<sup>a</sup>*

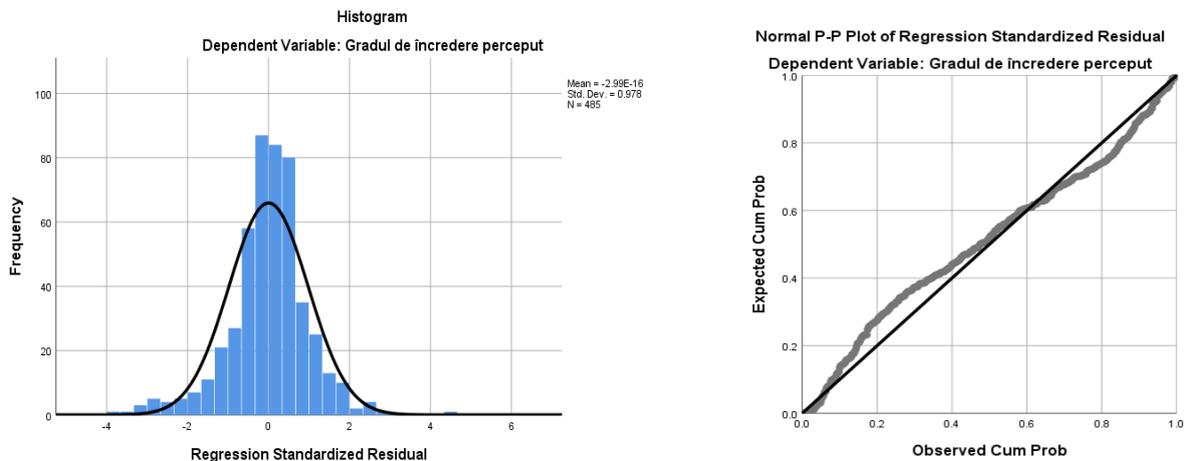
Template		Unstandardised coefficients		Standardised coefficients	t	SGL
		B	STD. Error	Beta		
1	(constant)	.710	.197		3.603	.000
	Degree of clarity and conviction of the shared purpose expressed	.475	.028	.621	17.135	.000
	The incentive for positive change in society	.267	.030	.304	8.833	.000
	Availability for learning/innovation	.102	.026	.148	4.006	.000

a. dependent Variable: Trust

Source: Authors' research.

Therefore, in the absence of any other factors, the degree of clarity and conviction of the common purpose expressed could contribute to generating confidence by up to 48 %, the degree of stimulus to positive change in society could contribute up to 27 %, and the degree of willingness to learn and innovate by up to 10 %. These three variables can thus contribute up to 85 % to increase the level of trust, which was determined to be positively linked with capital management and access to grants. No significant negative correlation is observed. An interesting finding is that these factors found to predict the generation of trust are highly subjective, depending on the perspective of the message container. Highlighting a 'common purpose' requires knowledge of the interlocutor and its purposes. A "positive" change in society depends on the mindset, values and political orientation of the individual.

By means of Figure 1 below, the authors checked that the residues (errors) of the regression line are distributed approximately normally. The overlap between the histogram of residues and a normal gaussian curve was used to serve as a comparison. It is noted that the errors are independent and normally distributed. The right side of Figure 1 shows the P-P Plot plot containing the observed values of the residual variable on the Ox axis and the forecasted values on the Oy axis. These last two graphs confirm that the errors are homoscedastic, i.e. the variance of errors is relatively constant, thus confirming the validity of the linear regression performed.

**Figure 1. Standardised residual graph of the dependent variable ‘Trust’ and P-P Plot.**

Source: Authors' research.

A linear regression was further carried out between the dependent variable 'Commitment' and the variables obtained through the variable regression graph. The model obtained provided a correlation coefficient R of 0,858, which indicates a positive relationship between the dependent variable and the independent variables, as the two are moving in the same direction (Table 5). Moreover, the ability of the model to predict the generation of the commitment to an extent of about 72.8 % (adjusted correlation coefficient value) is observed.

**Table 5. Description of the multi-linear regression model for the variable ‘Commitment’.**  
**Model Summary<sup>b</sup>**

Template	R	R Square	Adjusted R Square	STD. Error of the Estimate
1	.858a	.736	.728	.580

Source: Author's research.

**Table 6. The coefficients of the regression model for the variable ‘Commitment’. Coefficientsa**

Template	Unstandardised coefficients		Standardised coefficients	t	SGI.
	B	STD. Error	Beta		
1 (constant)	.057	.171		.331	.741
Degree of evidence of the significance of the organisation's mission and actions	.322	.033	.301	9.688	.000
Degree of contribution to social solidarity	.052	.026	.060	2.018	.044
Degree of awareness of collective responsibility in the company	.318	.036	.302	8.813	.000
Perceived confidence	-.175	.052	-.124	-3.375	.001
Projecting a favourable image	.455	.052	.432	8.754	.000
Degree of clarity and conviction of the shared purpose expressed	.132	.043	.123	3.079	.002
Building good reputation	-.658	.169	-.164	-3.895	.000

a. dependent Variable: Level of commitment

Source: Authors' research.

The ANOVA test (Table 7 below) shows that the model has statistical significance above 99 % because the significance value ('Sig. ') is 0,0001.

**Table 7. ANOVA table for the model of the varriable 'Commitment'. ANOVA<sup>a</sup>**

Template		Sum of squares	DF	Square mean	F	SGL.
1	Regression	446.837	15	29.789	88.415	.000 <sup>b</sup>
	Residual	160.039	475	.337		
	Overall	606.876	490			

Source: Authors' research.

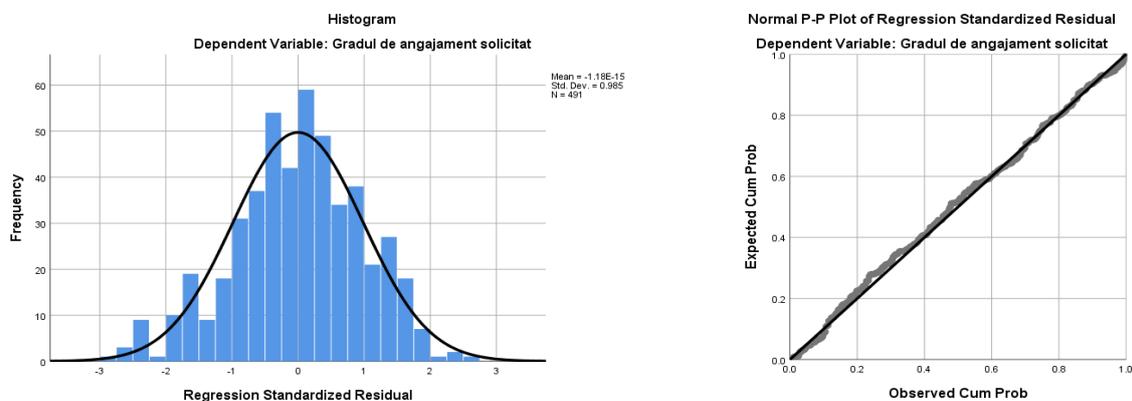
As seen in Table 6 above, the projection of a favourable image could help generate up to 46 % commitment, the degree of prominence of the organisation's mission and actions of up to 32 %, the awareness of collective responsibility in society could also contribute up to 32 %, the clarity and conviction of the common goal expressed by up to 13 %. Finally, the degree of contribution to social solidarity can help generate up to 5 % commitment. These three variables can thus contribute more than 105 % to the level of commitment requested, implying the possibility to double the commitment, which was established to be correlated with higher financial performance and access to grants.

Linear regression shows that the reputation can influence the commitment by 65 %, but in a negative sense. Therefore, a good reputation does not automatically generate commitment, but a bad reputation has a considerable negative impact. Also, trust may influence the commitment in a negative way by up to 18 %, as lack of trust leads to low commitment. The reverse is not valid, according to these results.

An interesting finding is that the most important factors influencing the increase of the commitment relate to the image and explanation of the entity's mission. It is important to communicate how the field of activity usefully integrates into the societal framework.

The histogram of the residues superimposed on a normal gaussiene curve (Figure 2 below). It is also noted that the errors are independent and normally distributed. As seen also in the P-P Plot chart (ibid.), the errors are homoscedastic, i.e. the variance of errors is relatively constant and linear regression is valid.

**Figure 2. Standardised residual graph of the dependent variable 'Commitment' and P-P Plot Commitment.**



Source: Authors' research.

#### 4. Conclusions

We identified a positive correlation between financial performance and capacity to generate commitment, between capital management and trust, and between access to grants and relationship building. Network building, as well as human capital, together with the capacity of investing in networking and lobbying campaigns, are capable of bringing an advantage in terms of increased access to finance. Accountability, including participation in society is also positively correlated with green growth.

The recommendation for public institutions aiming to improve financial performance and increase access to funds is to boost their levels of trust and measures to generate commitment and to contribute to green growth. The trust level can be almost doubled by the following model predictions for this sample of institutions:

- The degree of clarity and conviction of the expressed common purpose can help generate trust by up to 48 %;
- The incentive for positive change in society can help generate confidence by up to 27 %;
- Readiness to learn and innovate can help generate trust by up to 10 %.

The subjective nature of trust and its insoluble link with the person or vehicle delivering the message was apparent. Trust is 75 % in the eyes of the viewer/receiver, therefore in their perspective. It is thus necessary to align with the interests and perspective of the recipient of communication, in order to generate trust.

The level of commitment can be doubled by the following model predictions:

- Projecting a favourable image can help increase the commitment by up to 46 %;
- The significance of the organisation's mission and actions can help increase the commitment by up to 32 %;
- Awareness of collective responsibility in society can help increase commitment by up to 32 %;
- The degree of clarity and conviction of the shared purpose expressed can help to increase the commitment by up to 13 %;
- The degree of contribution to social solidarity can help increase commitment by up to 5 %.

The most important factors influencing the increase of the commitment are the image and explanation of the entity's mission. It is important to communicate the role fulfilled in society, bearing in mind that a faulty reputation can have a devastating impact.

A general area of investment and growth for the analysed public institutions is the green growth, digitalisation and the encouragement of citizens' participation in society. It is to be noted that there was no correlation observed between financial performance and the absorption rate of EU funds of the countries where the respective entities operate.

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