

Exploring the Relationship between Leadership Profiles and Company Performance: A Case Study in the Central African Republic

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Abstract: *The main objective of this work aims to verify the existence of a link between the profile of the leader and the overall performance within companies in the Central African Republic and particularly in Bangui. The verification of this link was made and validated with companies in Bangui through linear regression analysis. The results show a positive and significant link between the profile of the leader and the overall performance of the company in our context.*

Keywords: managerial innovation, global performance, SME, Bangui

1. Introduction

The liberalization of markets and the globalization of exchanges, with the corollary of the intensification of competition, are having the full impact of their effects inside organizations, forcing them to show good strategic sense in order to stand out from their competitors (Gargouri, 2015).

To cope with this new world order, companies in general, and SMEs in particular, are called upon to consider a new form of management, i. e. the one best suited to contributing, if necessary, to agility, to innovation, and also to the development of employees, etc. in short, to question the factors that would allow organizations to boost their performance. The latter could be further explained by managerial innovation.:

Managerial innovation according to Gilbert, 1998 can be defined as a new combination of means, materials and/or concepts already existing and/or new, in the process of business management.

For Birkinshaw and Mol (2006), managerial innovation is the implementation of management practices, management processes, new management structures, which are significantly different from usual standards.

Moreover, in a constantly changing environment, the performance of any company now depends on this new situation.

Since previously, various studies have even shown in the past that the failure of African companies had various causes (Grégoire, 1991; Ouattara, 1995; Kamdem, 1999), the most important of which is attributed to their lack of innovation.

Therefore, our major concern is to know, what role does managerial innovation play in improving the overall

performance of SMEs in Bangui? In other words, is overall performance associated with managerial innovation?

Basically, the objective of this study is to understand the impact of managerial innovation on the performance of SMEs in the Central African Republic and more particularly in Bangui. In other words, we seek to quantify the degree of influence of managerial innovation on the overall performance of SMEs in Bangui in the Central African Republic.

More specifically, this study consists of:

Assess the robustness of the model and the significance of managerial innovation or its factors on the overall performance of SMEs in Bangui.

To judge the inequality of the latent roots, that is to say, to judge the significant absence of sphericity of the model.

We formulate our hypothesis as follows:

H₀: There is no statistically significant relationship between overall firm performance and managerial innovation. So it is not possible to predict overall performance from managerial innovation

H₁: There is a statistically significant relationship between overall firm performance and managerial innovation. So it is possible to predict overall performance from managerial innovation.

2. Work Methodology

This is why, as part of our research, we are going to try from a quantitative study of companies in Bangui, (107 companies chosen and of which 52 retained) in order to collect in - depth information on the link which may or may not exist, between the type of innovation and the overall performance of the company.

The econometric equation of the model is: $Y_i = (b_0 + b_1X_1 + b_2X_2 + \dots + b_nX_n) + \epsilon_i$

3. Results

3.1 Results of the linear regression analysis

In our study, we wanted to know which variables influence the overall performance of the company (PGE). Since indeed, the theory tells us that managerial innovation has an important influence (CPG1, CSO, CPG2). In addition, we also want to know if the control variables, i. e. the age of the manager (AGE), the size of the company (TAI), the sector of activity (SEC) and the gender of the respondent (GENR) also exert influence on the overall performance of the company.

This is how we therefore chose a hierarchical regression model (comprising two blocks of variables) with the method entered for the first stage (block 1 managerial innovation with (CPG1, CSO, CPG2)), and the bottom - up method for the second stage. (block 2 with (AGE), (TAI), (SEC), (GENR)), with the aim of seeking the best modeling through the spss2 software channel.

Result of the relevance of the model by the test of the value F

To assess the relevance of the model, we will read the ANOVA table. Because indeed, table 1 of ANOVA allows us to determine if we reject the null hypothesis (H0) or not.

Table 1: ANOVA on SPSS 21

ANOVA ^a						
	Model	Sum of squares	ddl	Mean of squares	F/D	Sig.
1	Regression	19,184	3	6,395	55,720	,000^b
	Residue	5,509	48	,115		
	Total	24,692	51			
2	Regression	21,465	7	3,066	41,808	,000^c
	Residue	3,227	44	,073		
	Total	24,692	51			
a. Dependent variable: PGE						
b. Predicted values: (constant), CPG2, CSO, CPG1						
c. Predicted values: (constant), CPG2, CSO, CPG1, GNR, AGE, SEC, TAI						

It can be seen from reading the table and according to the value F obtained for models 1 and 2, the respective values of 55.720 and 41.808 are significant at $p < 0.01$, which indicates that we have less than 0.1% of luck, to deceive us by asserting that the models contribute to better predict the overall performance of the companies, than the simple average. So, we can reject the null hypothesis.

So the model is relevant, the model brings a significant improvement

In our case, by the F value test, this is 55.720 for model 1 and 41.808 for model 2 and is accompanied by a value of $p = 0.000$ and $p = 0.000$ which are significant because $p < 0.05$. Therefore, the model is relevant, and we must reject the null hypothesis, formulated above.

This means that the probability of obtaining an F value of this size by chance is less than 0.05%.

In conclusion to the F value test, there is therefore a statistically significant relationship between overall performance and managerial innovation. That is, the model provides a significant improvement.

3.1.2 Result of fitting the data to the regression model

Then, the next step is to determine, what is the contribution of each variable in the model?

To assess the fit of the data, we go to the SPSS "Model Summary" table.

Table 2: Summary of models

Summary of models										
Model	R	R - two	Adjusted R - square	Standard error of the estimate	Change in statistics					Durbin - Watson
					Variation of R - two	Variation of F	ddl1	ddl2	Sig. Variation of F	
1	,881^a	,777	,763	,33877	,777	55,720	3	48	,000	
2	,932^b	,869	,849	,27082	,092	7,776	4	44	,000	1,869
a. Predicted values: (constant), CPG2, CSO, CPG1										
b. Predicted values: (constant), CPG2, CSO, CPG1, GNR, AGE, SEC, TAI										
c. Dependent variable: PGE										

The result in the summary table of models contains the value of R, which is 0.881 for model 1 and 0.932 for model 2. It is the value of the multiple correlation coefficient.

We conclude that there is a strong correlation of 0.881 for model 1 and 0.932 for model 2, and that the relationship is

significant at 0.000 for both models because it is less than 0.05. So the data fit the model very well. There is a strong relationship between managerial innovation and overall performance, there is the agglomeration of points around the regression line.

3.1.3 Result of the explained variability of the model, by the study of R²

The result of the explained variability of the model is studied from R². The results suggest that 77.7% of overall performance is explained by managerial innovation and that 86.9% of overall performance is explained by the combination of managerial innovation and control variables (respondent's age, respondent's gender, company size and industry).

In other words, we can therefore say that managerial innovation (CPG1, CSO, CPG2) explains 77.7% of the variation in overall business performance (PGE) in Bangui. Then, the combination of managerial innovation with the other variables explains 86.9% of overall performance, with a significant variation of 9.2%. These are the variances in overall business performance in Bangui.

Indeed, this model therefore explains a significant proportion of the variance of the PGE variable. Because we went from R² = 0 to R² = 0.777. The second model increases the R² from 0.777 to 0.869. Thus, the variation of 9.2% or 0.092 appears to be significant.

3.1.4 Result of the robustness of the model

To study the robustness of the model, we looked at the value of adjusted R². In short, in our case, the value of adjusted R² is 0.763 for model 1 and 0.849 for model 2 is an estimate of the robustness of this model, if we took a different sample from the same population.

Conclusion to the study of the variation of F associated with models 1 and 2

On the other hand, the change in F associated with the first model is 55.720 and this is significant because (p=0.000; which is <0.05).

Indeed, the value of F is calculated from the variation of R² between the steps. SPSS therefore determines whether the difference (7.776) between the R² of model 2 (63.476) and that of model 1 (55.720) is significant. This time it is (p=0.000; p<0.05). Each step therefore contributes significantly to improving the explanation of DV variability. This variation also contributes or measures the robustness of the model.

3.1.5 Durbin - Watson test result

The Durbin - Watson (DW) test gives us a value = 1.869. Indeed, with a value of 1.96, we can believe that we respect this premise, which states that: if the value is closer to 2, then there is less problem, at the level of the independence of the errors.

General conclusion on the significance of the model and on the adjustment.

So, by all of its analyzes done, we assert that the model is significant, and that the data fit the regression model.

3.2.4 Result of model parameters

3.2.4.1 Values of model parameters

The values of the model parameters are reconstructed from the table of coefficients.

Table 3: Model coefficients

Coefficients ^a											
Model	Non - standardized coefficients		Standardized coefficients	t	Sig.	Correlations			Collinearity statistics		
	A	Standard error	Beta			Simple correlation	Partial	Part	Tolerance	VIF	
1	(Constant)	-, 487	, 231		- 2, 113	, 040					
	CPG1	, 293	, 081	, 385	3, 601	, 001	, 808	, 461	, 245	, 406	2, 465
	CPG2	, 278	, 085	, 360	3, 285	, 002	, 807	, 428	, 224	, 387	2, 587
	CSO	, 194	, 075	, 243	2, 579	, 013	, 722	, 349	, 176	, 526	1, 902
2	(Constante)	-, 457	, 267		- 1, 711	, 094					
	CPG1	, 117	, 078	, 155	1, 510	, 138	, 808	, 222	, 082	, 283	3, 528
	CPG2	, 190	, 075	, 246	2, 534	, 015	, 807	, 357	, 138	, 315	3, 171
	CSO	, 148	, 061	, 186	2, 439	, 019	, 722	, 345	, 133	, 514	1, 947
	TAI	, 183	, 154	, 168	1, 188	, 241	, 850	, 176	, 065	, 149	6, 705
	SEC	, 299	, 133	, 304	2, 249	, 030	, 830	, 321	, 123	, 163	6, 148
	AGE	, 035	, 047	, 047	, 749	, 458	, 404	, 112	, 041	, 767	1, 304
GNR	-, 038	, 118	-, 019	-, 325	, 747	, 079	-, 049	-, 018	, 871	1, 149	

a. Dependent variable: PGE

3.2.4.2 The econometric equation of the model

The basic equation was: $Y_i: (b_0 + b_1X_1 + b_2X_2 + \dots + b_nX_n) + \epsilon_i$

3.2.4.3 The econometric equation of the final model estimated with the coefficients

The econometric equation of the estimated final model can therefore be written as follows:

PGE = - 0.457 + 0.117CPG1 + 0.190CPG2 + 0.148CSO + 0.183TAI + 0.299SEC + 0.035AGE - 0.038GEN + ε

4. Discussion

The results of the regression analyzes establish that managerial innovation is positively associated with the overall performance of SMEs. These results are similar to those obtained by a number of authors, in particular those of Van Auken et al. (2008), Birkinshaw et al. (2008), Damanpour et al. (2009), Walker et al. (2010), Alzuod and Kharabsheh (2015) and Maalej and Amami (2016), in their study aimed at understanding the influence of managerial

innovation on business performance. Thus, the adoption of new innovative management practices and the change in the organizational structure within SMEs improve their overall performance. This confirms once again the role that innovation plays in creating value and improving business performance.

As a result, SMEs in Bangui can improve their overall performance through the implementation of new management practices, methods or techniques, new ideas and organizational structure.

However, contrary to previous works which apprehended the performance under the financial or organizational angle, but within the framework of our study, we appreciated it under the global angle. The differences observed on the regression coefficients compared to previous work can be attributed to the performance indicators used, but also to the effect of the sample size.

This study also found two dimensions of managerial innovation (management practices and organizational structures) having a positive and significant influence on business performance, unlike previous work which found three (management practices, management processes and organizational structures.) (Alzuod and Kharabsheh, 2015).

This difference can be explained by the nature, the quality and the number of items used to apprehend managerial innovation. Indeed, Alzuod and Kharabsheh (2015) used fifteen items to measure this concept, while unlike us, we only used nine items.

5. General Conclusion

At the end of this study, as a reminder, first of all we wanted to know:

What role does managerial innovation play in improving the overall performance of SMEs in Bangui? In other words, is overall performance associated with managerial innovation?

In addition, this study aimed to analyze the degree of influence of managerial innovation on the overall performance of SMEs in Bangui.

Finally, on the methodological level, from a quantitative study with companies in Bangui, (107 companies) we collected in - depth information, in order to determine the link which could exist or not, between managerial innovation and the overall performance of the company. . Thus, by the studies made, let us remember that:

The study of R, gave a value of 0.881 for model 1 and 0.932 for model 2, we can observe and conclude that there is a strong correlation between managerial innovation and the overall performance of companies in Bangui, and moreover, the relationship is significant at 0.000 for both models, because less than 0.05. So, which translates that there is a strong relationship between managerial innovation and overall performance. Also meaning that the data fit the model very well, and finally, there is agglomeration of points around the regression line.

The study of the variability of overall performance, by the study of R² gave a value of 77.7%, and this means that managerial innovation (CPG1, CPG2, CSO) explains 77.7% of the variation in the overall performance of companies (PGE) in Bangui). Then, the combination of managerial innovation with the other controlled variables (AGE, Tai, SEC, GNR) explain 86.9% of overall performance, ie a significant variation of 9.2%.

The significance study of the model showed that all the different coefficients are globally different from 0. Then, the model is globally significant.

Because, the coefficients of the different variables CPG2, CSO and SEC have a t - Statistic (2.533912; 2.439360; 2.249406) greater than 2; having the respective P - values of (0.0149; 0.0188; 0.0295) which are different from 0, and that these P - values are less than 0.05, then we confirm that the various aforementioned coefficients are significant. We are therefore in the presence of a good model

The study of the relevance of the model by the Fisher test gave us the value of 55.720 for model 1 and 41.808 for model 2 and is accompanied by a respective value of p = 0.000 and p = 0.000 which are significant because p < 0.05. This allows us to say that the model is relevant, and this is why we must reject the null hypothesis, formulated above.

Also, since the F - statistic probability is 0.0000 and is less than 0.05. This therefore means that we are in the presence of a good model.

In conclusion to the F - value test: The relationship is statistically significant between overall performance and managerial innovation. That is, the model provides a significant improvement.

The study of the robustness of this model by the value of adjusted R² is 0.763 for model 1 and 0.849 for model 2, which is an estimate of the robustness of this model.

The Durbin - Watson (DW) test gives us a value = 1.869. It is a value that is close to 2.

Ultimately, the results of the overall performance analysis are satisfactory.

But the limit of this research relates to the size of the sample which can be considered low. Indeed, although the sample of this study is statically acceptable (more than 30), it nevertheless remains limited. This could affect the accuracy of the results and raise some doubts about the generalization of the study to all Central African SMEs.

Moreover, much remains to be done to improve our knowledge of the links between managerial innovation and the overall performance of SMEs in Bangui. Intuitively, one can imagine that cultural specificity plays, despite everything, an important role in understanding the performance of SMEs. It would therefore be interesting to take this factor into account to improve the quality of our results. An exploratory qualitative study, with companies from different countries, could also make it possible to

identify the best practices of managerial innovation likely to create value. Similarly, it would be particularly stimulating to wonder about the existence of a business climate that could, more or less strongly, boost managerial innovation within SMEs.

References

- [1] Anderson, D. R., Sweeney, D. J., Williams, T. A., Camm, J. D., & Cochran, J. J. (2015). *Statistics for economics and management*. De Boeck Superior, Brussels.
- [2] Berrebeh Jalel, (2013) Methodology of a Master's research dissertation, FSEG Nabeul
- [3] Besbes, A., Aliouat, B. & Gharbi, J. - E. (2013). The impact of managerial innovation on firm performance: the role of market orientation and organizational learning. *French Management Review*, (235), 161 - 174.
- [4] Birkinshaw, J., Hamel, G. & Mol, M. J. (2008). *Innovation management*. *Academy of Management Review*, 33 (4), 825 - 845.
- [5] Boubakary, B., Boukar, H. & Tsapi, V. (2017). The impact of the manager's psychological profile on the growth of SMEs in Cameroon. *Management issue (s)*, 18 (3), 47 - 62.
- [6] Bourguignon, A. (1996). *Defining performance: a simple question of vocabulary?*
- [7] Bourguignon, A., "Can we define performance?", *Revue Française de Comptabilité*, N°269, (1995), p.61 - 66.
- [8] Fericelli A. M. and Sire B., *Performance and human resources* (pp.218 - 235), *Economica*, Paris.
- [9] Freeman, R. E. (1984). *Strategic management: strategic management: a stakeholder approach*. Boston: Pitman.
- [10] Gargouri, N. (2015). *Trade liberalization and the labor market in developing countries: the case of Tunisia*. Doctoral thesis. Nice Sophia Antipolis University.
- [11] Gronier Guillaume, Valoggia Philippe, *Managerial Innovations and Performance: Collective Activities as an Analytical Framework*; Henri Tudor Public Research Center, 29, rue J. F. Kennedy, L - 1855 Luxembourg
- [12] Hamel G. (2006). *The why, what and how of management innovation*. *Harvard Business Review*, 2 (84), 72 - 84.
- [13] Hamel G., Breen B. (2007). *The future of management*, Harvard Business School Press, Boston, French version, Éditions Vuibert, Paris, 2008.
- [14] *Managerial innovations: challenges and perspectives - International Symposium June 26, 2014, Sofia*
- [15] Julien P. - A. (1997) (dir). *SMEs: assessment and prospects*, 2nd edition, Edition Economica Paris, Les Presses Inter - Universitaires, Quebec Canada, 364 pages.
- [16] Kalika, M. (1988). *Business structures: realities, determinants, performance*. *Economica*.
- [17] Kning G., "Organizational learning: Identifying places", *Revue Française de Gestion*, n°160, 2006, p.293 - 306
- [18] Le Roy F., Robert M., & Giuliani P. (2013). *Managerial innovation*. *French Management Review*, (235), 77 - 90.
- [19] Leroy, F. et alii, (2013), "Managerial innovation", special issue of the *Revue Française de Gestion*, 6 (No.235).
- [20] Marmuse, C. (1997). *Performance*, *Economica*, p.2194 - 2208.
- [21] MERCIER Samuel, *The contribution of stakeholder theory to strategic management: a synthesis of the literature*, Lecturer at the IAE of Dijon, University of Burgundy
- [22] Mintzberg, H. (1973). *The nature of managerial work*. New York: Harper & Row.
- [23] Mol, M., & Birkinshaw, J., 2009, *The sources of management innovation: When firms introduce new management practices*, *Journal of Business Research*, vol.62, p.1269 - 1280.
- [24] Mol, M., Birkinshaw J., "The Sources of Management Innovation: When firms introduce new management practices", *Journal of Business Research*, 62, 2009, p.1269 - 1280
- [25] OECD (2005). *Oslo Handbook. Guidelines for collecting and interpreting data on innovation*. 3rd edition.
- [26] Pesqueux, Y. (2005), *The notion of global performance*. HAL ID: halshs - 00004006
- [27] Porter, M., *The Competitive Advantage: How to Get Ahead of Your Competitors and Maintain Your Edge*, Dunod, Paris, 2000.
- [28] Renaud, A., berland, N. (2010), *Measurement of overall business performance*. HAL ID: halshs - 00544875.
- [29] Salma Damak - Ayadi, *Stakeholder Theory: Empirical Theory or Normative Theory?* HAL open - archives, <https://halshs.archives-ouvertes.fr/halshs-00154139v2>
- [30] Sogbossibocco, b. (2010), *Perception of the concept of performance by the managers of small businesses in Africa*. *The Journal of Management Sciences* n°241, p.117 - 124.