

**MANAGERIAL METHODS STIMULATING NEW IDEAS OR  
CREATIVITY IN ROMANIA WITHIN THE EUROPEAN  
CONTEXT**

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**Abstract:**

*This study investigates the private enterprise contribution to the development of R&D activities in Romania and in EU. The general approach is focused on the analysis of the managerial methods for stimulating new ideas and creativity in terms of structure and intensity. Our aim was to determine whether the use of these methods varies depending on the enterprise size, in this case examining the Romanian innovative enterprises. Another concern was to see if there is a real correlation between the gross expenditure for R&D funded by enterprises and the complexity of the motivational scheme of the enterprises.*

**Keywords:** Managerial methods, Innovation, R&D, SMEs, European Union

**JEL Classification:** L29, M14, O32, O52

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## **1. Introduction**

Although the economic and social turbulence that we are experiencing is pushing us to short-term solutions, a veritable response to these problems should address the structural aspects of the economic governance, both public and private. In the past decades, knowledge has become the “rising star” in terms of capacity to change and improve the organizational processes. The increasing role of knowledge for competitiveness growth and economic development is at the base of the systemic transformation of the economic paradigm, thus facilitating the transition to the knowledge-based economy. A highly comprehensive and frequently used definition points out “that knowledge-based economy is characterized by the transformation of knowledge in raw material, capital, products, essential production factor for the economy, and by economic processes in which the generation, selling, acquisition, learning, stocking, developing, splitting and protection of the knowledge become predominant and decisive for long term profit gaining and sustainability assurance” (Nicolescu, 2011). In order to boost the process of knowledge creation and competitiveness enhancement, it is imperative to foster R&D activities, especially in the private sector. As a proxy for this change of priorities could serve the main goals of the strategic approach of the European Union (EU 2020) – creating a smart, sustainable and inclusive economy. So, 2/3 priorities (smart and sustainable economy), 2/5 objectives (R&D and climate/energy) and 3/7 flagship initiatives (Innovation Union, Resource efficient Europe, An industrial policy for the globalization era), are only achievable with the strong support of R&D. Having the above mentioned elements, it is important to highlight that one of the main factors that contributes to the proliferation of R&D in the private sector is the quality of management, and especially the ability to stimulate new ideas and creativity. So, our study will focus on the identification of the most relevant tendencies regarding the managerial methods for stimulating the R&D potential in private organizations, focusing the analysis in three main directions: (1) structural analysis in terms of enterprise size, (2) Romania’s specificity in the European context and (3) correlation testing between specific methods and the overall level of R&D expenditure.

## **2. Theoretical framework**

The theoretical literature regarding R&D is emphasizing a growth tendency of R&D activities performed by networks as a result of collaboration (Kesavayuth, 2012). Although it is a highly intuitive finding, there is also empirical evidence that funding is positively correlated with the success rate in R&D projects (Schwartz, 2012), therefore, there is a pragmatic need for policy makers to focus on fostering collaboration in order to attain critical mass. There are authors that tackled the theoretical assumption concerning the possibility that “public R&D subsidies crowd out private R&D investment”, and found that in reality there is a counterintuitive rule of thumb – “funded firms are significantly more R&D active than non-funded firms” (Aerts, 2008).

There is also much attention paid to explore the interconnection between the type and quality of the corporate governance and the propensity to conduct R&D projects (performed internally or outside the organization). One of the studies regarding this area of interest suggests that the enterprises, in order to “enhance companies' innovation and R&D capabilities, need to improve their corporate governance” (Dong, 2010). By deepening the analysis, there can be identified at least three main managerial characteristics that are positively impacting the scale and performance of R&D activities: “(1) the presence of CEO incentive schemes increases both corporate innovation effort and innovation performance; (2) sales-based performance measure in the incentive scheme, as compared with profit-based performance measure, is more conducive to firm innovation; and (3) CEO education level, professional background and political connection are positively associated with firm's innovation efforts” (Lin, 2011). Some authors even concluded that the actions that aim to stimulate R&D activities should preponderantly focus on two directions: (1) improving the management quality in SMEs and (2) incentivising collaboration and cooperation (Martinez-Roman, 2011). Studies with a higher holistic approach are show that “the perspective on managing R&D processes has changed over the years, moving from a technology-centered model to a more interaction-focused view” (Nobelius, 2004).

A recent study carried out by us is indicating that “the economic development and wealth creation are positively correlated with the amount of gross R&D expenditure” (Lavric, 2012), also underlining that in order to stimulate the total level of R&D activities, the prior actions must address the private sector. Another interesting finding is there are cultural, historical and

geographical determinants that cause the clustering of the EU countries in three groups, that differ one from another in terms of structure and intensity of R&D: (1) high R&D level (Finland, Sweden, Denmark, Germany and Austria); (2) medium R&D level (France, Slovenia, Belgium, Netherlands, Ireland, Great Britain, Estonia, Portugal, Czech Republic, Spain and Italy); and (3) low R&D level (Hungary, Lithuania, Poland, Malta, Slovakia, Bulgaria, Latvia, Cyprus and Romania).

### **3. Methodology**

This study of ours is based on the statistical data series regarding R&D for the European Union and especially Romania, data sources used being the “The Community Innovation Survey 2010” and the R&D database from Eurostat. The data we used in our analysis is mainly addressing issues regarding the managerial methods stimulating new ideas or creativity. Here we have a list of six most important tools in boosting creativity: brainstorming sessions, financial incentives for employees to develop new ideas, job rotation of staff, multidisciplinary or cross-functional work teams, non-financial incentives for employees and training employees on how to develop new ideas or creativity.

The raw data is expressed as number of enterprises using a certain method, and the total innovative enterprises for the 2010 year. Another set of data we included in our analysis is referring to the gross expenditure for R&D that was provided by the private enterprises. The states that are analyzed in this paper are the following: Belgium, Bulgaria, Czech Republic, Estonia, Ireland, France, Italy, Cyprus, Lithuania, Hungary, Malta, Netherlands, Poland, Portugal, Romania, Slovenia, Slovakia, Norway and Croatia. Definitions of the indicators studied are the ones formulated by OECD, and adopted by both Eurostat and the Romanian National Institute of Statistics. According to that, R&D (research and experimental development) “comprise creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications”.

After analysing the data, our study continues with the conclusions, formulating in the end some appropriate measures that are to be taken in order to stimulate the overall level of R&D activities through the private enterprise sectors, and especially SMEs.

## **4. Results**

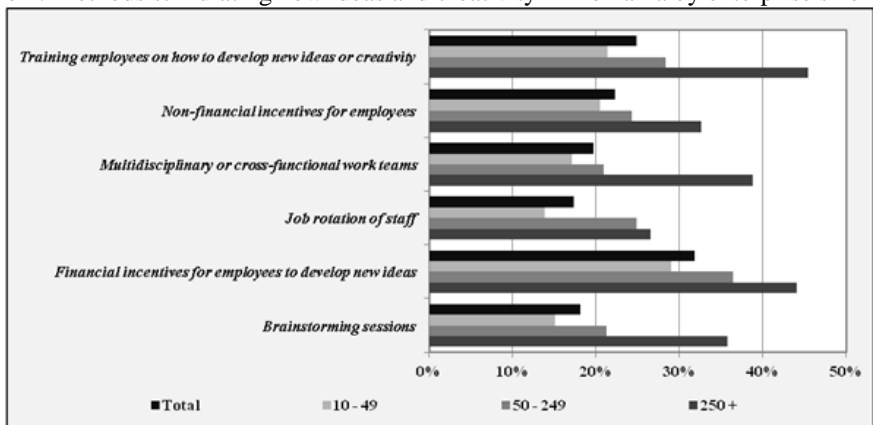
### **4.1. Methods stimulating new ideas or creativity in Romania**

Romania, as a country with a low R&D level, is exposed to divergent pressures in terms of economic growth and development, as compared to the Western European states. In 2010, the amount of the gross R&D expenditure, expressed as percentage of GDP, scored 0,47%, while the EU average was 2,00% (4,3 times higher). In order to catch up, the R&D activities should be stimulated on a competitive base, thus the private enterprises are the ones that should research, develop and innovate. Successful R&D involves inherently highly qualified, creative and motivated human resources. At micro level, the management of the organization should find and apply methods stimulating new ideas and creativity of employees. In this sense, the Community Innovation Survey is delivering some data that characterizes the managerial approach regarding creativity in innovative enterprises. The most relevant six methods that foster creativity are: brainstorming sessions, financial incentives for employees to develop new ideas, job rotation of staff, multidisciplinary or cross-functional work teams, non-financial incentives for employees and training employees on how to develop new ideas or creativity. Brainstorming is a method that aims to develop the creativity over a certain issue by a group of people. In order to attain good results, there is a methodology that has to be applied, as the session could deviate to a counterproductive stage. Financial incentives for employees to develop new ideas could come in the following form: (1) result-based incentives – where the employees get a bonus for the successfully implemented new ideas, and (2) process-based – the bonuses are for the implication in generating new ideas, actually incentivizing the initiative. The job rotation of staff is method to motivate employees and facilitate the accumulation of experience. Applying such a method must consider the following restrictions: (1) it is more appropriate for entry-level employees, (2) the differences between the jobs should imply equivalent competencies, and (3) there should be a strategic reserve of capacity in the organization, meaning that the company should have the ability to absorb the marginal decrease in productivity. Creating multidisciplinary or cross-functional work teams is one of the characteristics of the knowledge based organization. It actually implies a more flexible organizational structure that facilitates working on a project-base. The non-financial incentives for employees are a form stimulating creative behaviour through a more complex

and efficient motivation scheme. Training employees on how to develop new ideas or creativity is a more formalised method that is frequently used for teambuilding purposes. Also, as opposed to the above mentioned methods, training is focusing on building the creative potential, thus emphasizing that creativity and innovation could be learned, and therefore, it is a matter of mindset and initiative whether you get involved actively in the life of the organization.

Romanian innovative enterprises had a divers approach regarding the managerial methods for stimulating new ideas and creativity. The average number of creativity boosting methods is 1,34, which is very close to the EU average (1,31). At general level, providing financial incentives for employees to develop new ideas is the most frequent option (31,86%), being followed by training employees on how to develop new ideas or creativity (24,84%), non-financial incentives for employees (22,28%), multidisciplinary or cross-functional work teams (19,70%), brainstorming sessions (18,14%) and job rotation of staff (17,36%). Taking a closer look in terms of structure (Figure 1), there is quite intuitive finding, which in our case, is proven by data analysis – the intensity on using managerial methods stimulating ideas or creativity is positively correlated with enterprise size. So, in small enterprises, there are 1,17 methods per innovative organization, in medium sized – 1,56, and in large companies – 2,23. This type of correlation is also maintained in terms of structure, meaning that on each of the investigated methods the frequency of using a certain method rises as the organizations get bigger.

Figure 1: Methods stimulating new ideas and creativity in Romania by enterprise size



Source: Community Innovation Survey, Eurostat, own calculations

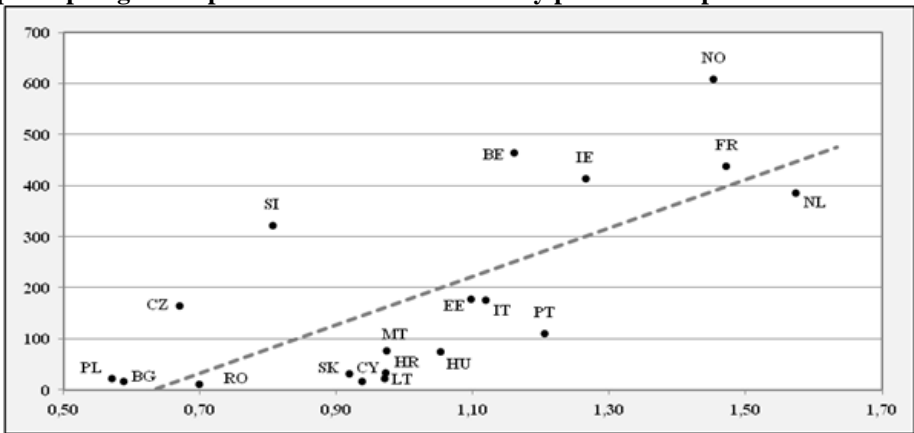
There are also some specific characteristics for each method. For example, job rotation of staff is relatively the same in medium sized enterprises and in large ones, exceeding by almost a factor of two the level encountered in small enterprises (10 - 49 employees). This is due to the inherent need of a quite complex organizational structure that would offer the possibility to use job rotation in an efficient manner. Another finding emphasizes wide discrepancy between SMEs and large enterprises when it comes to building multidisciplinary and cross-functional work teams. This variation could be interpreted as a result of different organizational cultures, as the inflow of international managerial know-how is more intense in the sector where foreign capital is more likely to be invested – large companies. A very close situation is also applicable to brainstorming sessions, where the large companies use it almost twice as often than SMEs, and in the case of training employees on how to develop new ideas or creativity. Financial and non-financial incentives for employees to develop new ideas are the managerial method with the least relative variation, thus suggesting that the enterprise size, although it is positively correlated with the frequency of appealing to these tools, it has a marginal change rate lower than the other options.

#### **4.2 Methods stimulating new ideas or creativity in the European Union**

As we analysed the propensity to use different managerial methods stimulating new ideas or creativity in Romanian innovative enterprises, there comes in place the need to extend the approach and focus on the European context. In order to do so, it is important to reaffirm that the usefulness of the above mentioned managerial methods consists in developing the raw human resource capacity for R&D activities. In order to investigate the managerial behaviour in European organization in the area of stimulating creativity, we will calculate an indicator – non-financial relative incentives – as the ratio between non-financial incentives for employees and financial incentives for employees to develop new ideas. A value over 1 indicates a more complex motivation scheme for the employees, and less than 1 – an old-fashioned approach, where money is considered, if not the only one, at least one of the few really consistent motivational factors and surely the most important one. The main finding (Figure 2) that is clear from the analysis is that there is quite

a strong positive correlation between the non-financial relative incentives and the per capita gross expenditure for R&D funded by private enterprises (euro). In other words, a more complex and flexible motivational system for stimulating creativity is also influenced by the involvement degree of the private sector in funding R&D. Still, correlation doesn't always mean causation, in this particular case that we investigate it is obvious that these two factors influence each other concomitantly. The importance and involvement of the private sector in funding R&D influences the perception over the success rate in R&D projects, and thus, the managerial approach in organizations shifts to a more creativity-oriented paradigm. In the same time, the readiness of the human resources in the enterprises to innovate and generate new ideas is multiplying opportunities to invest in R&D.

**Figure 2: The Correlation between the non-financial relative incentives and the per capita gross expenditure for R&D funded by private enterprises correlation**



Source: Community Innovation Survey, Eurostat, own calculations

## 5. Conclusions

In terms of economic development, Romania is underdeveloped also because of the low level of R&D activities, especially private funded. As we showed, it has the fourth least diversified incentive scheme for employees that are creative and generate new ideas. In terms of structure, providing financial incentives for employees to develop new ideas is the most frequent used tool, followed by the option of training employees on how to develop new ideas or



creativity, emphasizing the existing of an old-fashioned motivation scheme for the employees, where money is considered, if not the only one, at least one of the few really consistent motivational factors and surely the most important one. Also, there is a positive correlation between the enterprise size and the intensity of using managerial methods stimulating ideas or creativity. Such a relationship is maintained when we analyse the structure regarding this managerial tools. So, as the enterprises get bigger and more complex, they have a higher propensity to diversify the methods used to foster creativity and innovation, thus SMEs have fewer options, mainly because the lack on financial resources and managerial know how. In this sense, we can argue that as the intreprenurial approach is characteristic for SMEs, there is a tendency of the manager, that most of the time is the only/main shareholder, to rely only on his creativity potential, thereby neglecting the brain power of the employees. As opposed to this, the large companies are more managerial literate in terms of corporate governance, implementing managerial systems, new methods, relying on consultancy, analyzing and shaping the organizational culture etc. The main idea is that the employees have a great potential to be creative and even innovate, but in order to capitalize this resource there should be implemented managerial methods stimulating new ideas or creativity, leading to an organizational culture that is coherent and convergent with the new economic paradigm – the knowledge-based economy.

At European level, we identified a correlation between the between the non-financial relative incentives and the per capita gross expenditure for R&D funded by private enterprises. This finding emphasizes the great influence of the private sector in funding R&D on the perception of success in R&D projects, leading to a more creativity-oriented managerial approach in private organizations. As there is a reciprocal influence, the existence of a consistent base of employees that are willing, trained and capable of creative work, creates the premise for multiplying opportunities to invest in R&D.

The main idea is that the motivational scheme for nurturing creativity should be divers and flexible in order to generate high results in a sustainable way. Although the financial incentives are important, the ability of the management to deliver an environment that predisposes to intrinsic motivation is critical. Getting people to participate in a veritable way to the decision making process and to interact with each other in divers projects is also a measure that could shape the organizational culture. Probably one of the hardest ways to change is making the entrepreneurs from SMEs to appeal to

the “creative minds” of the employees. Although it is an intuitive measure, the difficulty comes from three main directions: (1) it is necessary to change the behaviour and attitude of an entrepreneur that achieved success by operating in the old-fashioned, (2) the people that must promote and manage the change process are also the ones that are to change in the first place, and (3) there is a consistent lag between the moment the change is initiated and the appearance of the first result. There is also a positive element – as the competition sharpens – the propensity to managerial know-how transfer rises, and therefore the necessity to get all the employees involved.

## **6. References**

- Aerts, K., Schmidt, T. (2008). Two for the price of one? Additionality effects of R&D subsidies: A comparison between Flanders and Germany. *Research Policy*, 37, 806-822.
- Belderbosa, R., Carreeb, M., Diederenc, B., Lokshinb, B., Veugelersd, R. (2004). Heterogeneity in R&D cooperation strategies. *International Journal of Industrial Organization*, 22, 1237-1263.
- Carboni, L. A. (2012). An empirical investigation of the determinants of R&D cooperation: An application of the inverse hyperbolic sine transformation. *Research in Economics*, 66, 131-141.
- Dong, J., Yan-Nan Gou, Y. (2010). Corporate governance structure, managerial discretion, and the R&D investment in China. *International Review of Economics and Finance*, 19, 180-188.
- Fu, Q., Lu, J., Lu, Y. (2012). Incentivizing R&D: Prize or subsidies? *International Journal of Industrial Organization*, 30, 67-79.
- Kesavayuth, D., Zikos, V. (2012). Upstream and downstream horizontal R&D networks. *Economic Modelling*, 29, 742-750.
- Lavric, V. (2012). The dynamics of R&D activities in Romania within the European context. *Proceedings of the 6th International Management Conference "Approaches in organisational management"*, Bucharest, Romania.
- Lee, E.Y., Cin, B.C. (2010). The effect of risk-sharing government subsidy on corporate R&D investment: Empirical evidence from Korea. *Technological Forecasting & Social Change*, 77, 881-890.

- Lin, C., Lin, P., Song, F.M., Li, C. (2011). Managerial incentives, CEO characteristics and corporate innovation in China's private sector. *Journal of Comparative Economics*, 39, 176-190.
- Martinez-Roman, J.A., Gamero, J., Tamayo, J.A. (2011). Analysis of innovation in SMEs using an innovative capability-based non-linear model: A study in the province of Seville (Spain). *Technovation*, 31, 459-475.
- Nicolescu, O. & Nicolescu, C. (2011). *Organizația și Managementul bazate pe cunoștințe - Teorie, metodologie, studii de caz și baterii de teste*. Bucharest: Editura Pro Universitaria.
- Nobelius, D. (2004). Towards the sixth generation of R&D management. *International Journal of Project Management*, 22, 369-375.
- Narula, R. (2004). R&D collaboration by SMEs: new opportunities and limitations in the face of globalisation. *Technovation*, 24, 153-161.
- Schwartz, M., Peglow, F., Fritsch, M., Gunther, J. (2012). What drives innovation output from subsidized R&D cooperation? – Project level evidence from Germany. *Technovation*, 32, 358-369.
- Frascati Manual. (2002). OECD.