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An asset-based approach of the Romanian research-development and innovation system

Steliana SANDU, Irina ANGHEL

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Abstract

The present paper experiments a new model of analysis for the Research-Development and Innovation (RDI) field of research, namely the Asset-Based Development strategy or Appreciative Planning and Action, which unfolds at the community level the same core principle that Appreciative Inquiry Methods at the organizational level: strengths elevating, strengths combining, strengths extending systems. Following the four "D stages" (Discovery, Dream, Design and Destiny/ Deliver) pattern, the authors outlined many strengths and achievements of the Romanian RDI system in order to depict the positive trends, structures and mechanism, as well as to map out the main routes towards fulfilling a new vision. Building upon ideas, opinions, studies, interviews of different representatives of the research community (managers, scientists, professors, users etc) expressed in specialised literature, newspapers, journals, or in direct contact and dialogue with them, we intended this approach encompass the appreciative contributions of the main stakeholders: universities, public and private research institutes, the business sector, public policy-makers. In this complex and rather rigid RDI system, whose elements are heterogeneous institutions and communities, that interacting each other in a special environment such as a network structure, effective change is still to be brought by individuals who possess the necessary power to continue transform their mind and attitudes and thus to initiate, diffuse change and, influencing the RDI environment. This might be a viable way to improve, in a positive manner, the RDI system's efficiency.

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Background

The Romanian Research-Development and Innovation System, with its very distinct peculiarities, has drawn attention of national and international experts during last two decade. Evaluation processes, involving local and international observers and evaluators, have been periodically led along this period[1]:

Detailed studies and reports on the Romanian national innovation system performance and functioning have been, also, drawn by numerous national researchers and evaluators, mainly driven by the heavily perceived imperative for its reformation, improvement and progress. Most of the above mentioned international and national analysis follow a problem based approach, or, at the best, a SWOT assessment pattern, with more emphasis on deficiencies, malfunctions, negative aspects of the system, as well as on strategic solutions to overcome them. It seems that many weaknesses of the system overshadow the strengths and progress, and the focus of reformation stays on what's wrong and needs to be change determine a pessimistic and critical attitude of many experts. In this context, a more positive approach, using a very actual and proven successful instrument for strategic development at the organizational level, which is the Appreciative Inquiry (AI) or Appreciative Strategic Assessment, might be welcome. These scientific instruments allows us to seek and draw upon the root causes of success rather than those contributing to failure, increasing interest in learning more about how could be use the intrinsec strenghts of the R&D&I system and how the peoples involved could fructified their creativity and power (Chapagain & Ojha, 2008, Fernando, 2010).

The Appreciative Inquiry method being opportune when the task requires high levels of participation and cooperation, when there is a need to accelerate the process of change, when the participators are eterogenuous and at time conflicting and when it is necessary to integrate a wide range of change initiatives, we consider that the current transformation of RDI system welcomes an AI approach adapted to this issue. The substance and pivot of the AI instrument consist of several principles that string out along the whole process involved: changing the

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[1] We would mention the overall assessment of the education and research systems in 1993 under coordination of World Bank experts; two PHARE exercises for assessing the national innovation system in 1995 and 1997; the RDI policy mix review process instigated by CREST during the second cycle of the Open Method of Coordination in 2005-2006; the INNO-Policy TrendChart prepared and released every year since 2000 by the European Commission, tracking innovation policy developments in all EU Member States, recent, 2008 ERAWATCH report about R&D and innovation in Romania etc.

internal dialogue of the organization from problem-oriented, deficit discourse to possibility-oriented; appreciative discourse – *the general positive tone*, as people within and around organisations are responsive to positive thought and positive knowledge; fostering high involvement and cooperation among *all* members and stakeholders – *the participative substance of AI*; building on past successes.

Methodology

A growing practice in organizational development, AI is a strength-based approach to change that induces innovation and collaboration through participatory methods. Focused on „the best of what is" (Cooperrider, Whitney 2005), it changes the internal dialogue of the organization from problem-oriented, deficit discourse to possibility-oriented, appreciative discourse (Bright et. al., 2006). Yet, in the context of numerous deep-rooted problems disabling the Romanian RDI system, the risk of focusing too much on the negative aspects and failures is high. AI proves to be an instrument of superior value especially for socio-economic entities which is, more or less, functional and whose past has success stories to tell.

We have chosen to take also into consideration the assumptions of the Strategic Analysis Model, which combines "needs assessment" models with Appreciative Inquiry. It is meant to be a proactive continuous improvement instrument that redresses shortcomings of both problem-based model, and Appreciative Inquiry (Ncube, Wasburn, 2008). An evaluation approach that focuses on what has been working, on strengths, identifies a point of departure from which to launch efforts towards progress and improvement, through leveraging the strengths in order to address the main needs (Cojocaru, 2009). Our approach to Romanian R&D&I system assessment would tailor this model to the specific requirements. While following the AI's main four "D" steps (Discovery, Dream, Design and Delivery), we endeavour to track bridges between the system's needs and its strenghts and up-to-now attainments. Converting the model, in order to be applicable to a complex economic and social system such as the national RDI system, requires keeping the substance of the AI principles while adapting their traditionally employed forms to the restrictions of the our evaluation field. Rather than an in-detail evaluation of the present status of RDI system, we have looked at the progress registered so far and at the inner potential to carry it forward in spite of all internal drawbacks and external threats. We consider the participative principle has been met at system level as our research is based on various documents and information sources that contains opinions of researchers from different fields, representatives of ministries or other R&D bodies, members of R&D priorities choosing, evaluation, financing or program management bodies, representing most of the system's elements and stakeholders and that reflected their consi-

derations about the present status of the R&D&I system, their desires, dreams and future visions. Moreover, we agree that delivering and designing the future of each element of the RDI system in a participative approach would ensure its fulfilment, success and the intrinsecly motivated individuals needed to go through with it.

Discovering the current conditions, we have tracked the evolution of various important qualitative and quantitative indicators regarding the system's capacity, performance and functionality. We have reviewed, also, the positive aspects remarked in the most important national and international evaluation papers and reports along the last years, especially since the Romanian's accession to EU. We have also followed the transformation processes for the different subsystems of the RDI system (such as Education, Public Research, Policy making and implementation, etc.). Drawing on a wide range of information sources, from interviews, conferences, personal talks, media, open letters, to reports and official documents, we have endeavoured to map out the *Dream*, the ideal picture of the RDI system, as it is understood and envisioned by the different stakeholders and entities within and outside the system. The system of the key coordinates is expected not only to capitalize on the discovered strengths, but also to address, keeping the positive tone, important deficiencies. *Designing* the way to fulfilling the dream would require harnessing the synergy of the strengths and capacities integration. We will take into consideration the systems' entities, the stakeholders with active roles in the development process and try to identify the main routes they might follow in order to play their part in the successful re-formation of the system. *The Delivery* stage of the proposed project is wholly contingent on the will of all actors, from knowledge providers, knowledge users to policy makers and external funding, assistance institutions. Yet, there may be pinpointed several elements that may ease and facilitate the implementation of transformation process.

Specific aspects regarding Appreciative Strategic Assessment of Romanian Research –Development and Innovation system

Discovery

Radical transformation of an complex socio-economic systems, such as the national system of research-development and innovation, is very demanding and strenuous, particularly when the imperative of urgent catching up with more developed countries, where they have been established and developed along many years, is pressing. The previous Romanian RDI system, pyramidal, highly centralized, having been designed according to the economic and social requirements specific to the socialist era, suffered deep changes within a relative short time. It have had gradually adapted the organizational structures, operating mechanisms,

the policies and inputs to the demands of a maturing, developing market economy. The challenges that confronted the system were severe especially during its incipient stage, when the national expertise was lacking, financial resources were scarce and the political approaches were too liberal at times, or experiencing various, and often unsuccessful, imported models. The decentralization of RDI system, which haven't always been properly designed and managed, particularly regarding the privatization of RDI institutes, have had negative consequences, sometimes with irreparable loss of material and human resources.

Changes of RDI system faced resistant and inertial forces hindered the reform process. The financing models were notably highly path-dependent and the shift from the previous predominantly institutional financing to competitive funding schemes, based on evaluation, prioritization, co-financing, performance stimulation has been hardly accepted. Nevertheless, starting with the Horizon 2000 Programme, elaborated in 1995, the selection mechanism of priority programmes and research themes have gradually been refined, especially within the first National Plan for Research Development and Innovation 2000-2006, (NPRDI1) and the second NPRDI (2007-2013). High emphasis was set on encouraging excellence in research. The Excellence Research Programme (CEEX), running between 2005-2008, was acknowledged as an effective incentive for high quality research, preparing the way for a better and more facile integration of the Romanian Research Area within the European Research Area. When negotiations for Romania's accession to EU started, the policy for research and innovation underwent a critical turning point. Under close European institution supervision and monitoring, Romania was compelled to progressively adapt the RDI objectives and instruments in compliance with European convergence criteria and with the Lisbon and Barcelona requirements.

The European Framework Programmes (FP4, FP5, FP6, FP7) represented an important impetus towards the affiliation of the Romanian scientific community to the European one. Even though the success rate of Romanian applications was much lower than even those of some ex-communist countries (Romania being thus a net contributor to the European research funding), yet our country benefited from higher mobility of Romanian researchers, from their co-participation in international research programmes and co-authorship of jointly elaborated and published research papers. Periodic assessment of the Romanian RDI system, undertaken by teams of European and Romanian evaluators, provided valuable suggestions and indications for RDI policy making. An important exercise was the evaluation of CREST experts, within the European project "Policy Mix", which consisted of two rounds of investigating the mix of policies and instruments available for steering the RDI system towards superior, higher performance. An outstanding progress has been accomplished with reference to university research, which institutionaly had almost inexistent before 1989. Now, given the more and more exigent evaluation criteria for universities and professors, which strongly

emphasise the central role that research should play in higher education, universities have established their own R&D units, some of which achieving highly performant results.

Revival of in-house R&D of the firms, as it has almost been abolished after 1990, proves to be a slow process. The linkages between research and industry are not yet consolidated, even though their critical importance for industrial reconstruction and increase of business sector contribution to research funding, has been repeatedly mentioned in official policy documents and statements. Consequently, it is not surprinsingly that the last years have witnessed a decrease the financial support of the business sector in RDI financing. The ambitious goal set in 2000, to gradually raise the public budget for RDI up to 1% of GDP till 2010 hasn't been met, even if the public expenditures for RDI have had an upward trend until 2008. The financial and economic crisis diminished the 2009 budgetary allotment for RDI to almost half of the 2008 level. In 2010, despite stationary evolution of GBOARD, the government engages to proceed to important qualitative reformation and restructuring regarding the allocation of public funds to programmes and projects. Higher performance criteria are to be set and foreign evaluators would be involved in project and programme evaluation (Cojocaru, 2008). According to statistical data from European Innovation Scoreboard (2008), starting with 2008, Romania is among the "catching-up countries", with innovation performance well below the EU average but with the highest overall rate of improvement. Innovation performance and activity has had a slight overall upward trend, as the Summary Innovation Index (EIS, 2008) clearly presents (see Fig.no.1, A).

Figure 1. The evolution of the Summary Innovation Index -
Romania vs EU 27
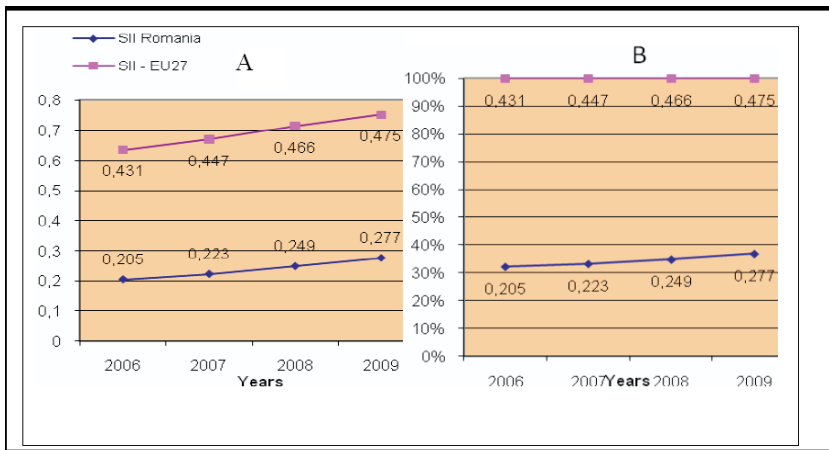
Source: according to EIS 2008 data

It seems that, slowly but surely, Romania has headed towards the European average performance (see Figure no. 1, B), that is, to a higher convergence to the European RDI systems (Sandu S, Paun C, 2009). Most recent evaluation reports, elaborated under the aegis of the European Commission (Inno Policy Trendchart, Erawatch) state that the current configuration of the RDI system is significantly improved, mentioning the main positive elements as the following[2]: policy documents effectively addressing the key critical issues for the development of RDI system; significantly more collaborative and participative policy making processes (The National Strategy for RDI, horizontal policy integration, consortia and advisory bodies involving all the stakeholders of the system, etc); diversification of direct and, designing some indirect funding instruments (fiscal incetives, risk capital funds[3]); improvement of scientific performance through more effective project selection, monitoring and evaluation (NASR, 2009), as well as through performance based evaluation criteria for institutional and individual assessment; increased quality of R&D ouput, increased international visibility (the number of ISI indexed articles and scientific journals significantly improved (NASR 2009); increasing number of personnel involved in RDI and higher share of young researchers; stimulation of scientific excellence in the higher education system; stronger cooperation between private and higher education sectors; higher share of innovative enterprises (INS 2008); more public support to intensify knowledge flows within the system and the dissemination and integration of research results in the economic circuit (NASR 2009); tighter and enlarged international cooperation in regional policy making and in bi- multi-lateral research programmes and projects (NASR, CNCSIS). All these improvements within R&D and innovation system are a good basis for designing the dream.

Dream

The second stage of the AI evaluation process involves a collective envisaging of the ideal, static or dynamic, picture of the evaluation object, which should satisfy the main aspirations of all stakeholders and entities involved. This exercise set the stage for the future commitment of the individuals towards fulfilling this common dream, for the expression of the needed positive and cooperative, teamwork attitude. One of the AI basic principles (Töpfer, 2008) stipulates that current behavior is stimulated by the view of the future. If the future is perceived in a positive light, then the personal commitment is higher and the performance of the entire organisation is improved. A negative view lowers the performance and the productivity of the whole system declines. In the context of the paper' scope, the motivational and engaging dimension of the *dreaming* stage can be exploited

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[2] European Commission, INNO-Policy Country Report Romania, 2009.

[3] The Romanian Equity & Development Finance – operational since 1st January 2010, JEREMIE Programme.

drawing a dream-picture able to answer the desires and needs of entities involved in the system's functioning, based on the AI assumption that groups, organisations and systems develop in the direction in which they focus their attention (Töpfer, 2008). An optimal system is the system able to effectively and smoothly fulfill its mission and reason for being. That involves capitalization on the maximum synergy effect, which is partially contingent on each entity's efficiency, on unhindered internal information and resources flows, on good cooperation and collaboration among the system's components, on high flexibility and adaptability to the environment restrictions and opportunities.

As regards the specificity of the Romanian RDI system, we would refer to an document which may accurately disclose the common stakeholders' vision: the 2007-2013 National RDI Strategy. The Strategy, the essence of a dialogue concerning the role of science in society, capitalizes upon the results of a broad and unique exercise of Romanian society, which involved the communication and negotations amomg the main stakeholders of the RDI system. It is the result of a broad consultation with representatives of the scientific, business and civil comunities (*RomanianDelphi*) which were invited for the first time to jointly identify the system's mission, the priorities and strategic RDI objectives. Therefore, the strategy itself might represent the general framework of the *dream.* Under the *motto* „private interest for public good", the representatives of the Romanian NIS stakeholders considers that, a functional RDI system would ensure that *innovation stands as a fundamental pillar and driver of the Romanian economic competitiveness*. In the strategy's vision, the innovative initiative would belong to the companies benefiting from public co-financing of pre-competitive research, fiscal facilities for the development of their own RDI capacities, access to RDI risk fund, and unhindered acces to the relevant critical knowledge the scientific research units would provide. The Public R&D units needed knowledge and competent human resources for addressing to industry needs. This mechanism should be supported through the establishment of technology platforms and centers of competence in cooperation with representatives of RDI-active sectors. Services offered by the integrated research platforms and networks would also help increase the technological capabilities of enterprises.

Among the key objectives of the improving Romanian RDI system is to create valuable knowledge, to increase the competitiveness of the Romanian economy through innovation and technology transfer, to iincrease the quality of social life through the development of S&T solutions to problems related to social cohesion and dynamics, health, environment, infrastructure, etc. In the dream-picture, universities, R&D public and private institutes assume their role as important actors on the knowledge market, attracting and develeeping human resources of high competence. They are deeply engaged in reserach activities and have close connection with the economic environment that would generate not only additional income, but also added value to the education processes. Innovation, the

main promoter of welfare, is centered at the cooperation between research and industry. The business sector is aware of the critical importance of innovation in achieving and sustaining competitive advantage on the national as well as international markets, has developed higher absorptive capacity, manifests high interest for turning to own benefit the RDI results and is connected to the university and public research sector. The policy makers are ensuring an integrated policy mix for RDI. They foster and oversee the networking, coordination and integration at the institutional level. Adequate funding sources, mechanisms and instruments are provided that encourage only performant RDI activty, linking scientific research funding to scientific performance. Moreover, they create institutions and policy instruments that would mediate the relationships among the system's actors, improving the absorbtion of research results into economy and society. At the political level, high priority is also given to increasing the attractiveness of the research career, the to promoting inter- and trans-disciplinarity in RDI, to strengthening the education-reserach-innovation triangle, etc. With reference to external stakeholder, it is worth mentioning that the future Romanian RDI system will render a Romanian Area of Research which may properly respond to the highly demanding needs of compatibility, necessary for the integration into the European Research Area (Sandu S, Paun C, 2008).

Design

After discovering the strengths and past successes during the first stage, then dreaming on the picture of what should and could be the evaluation object, the third step of the AI evaluation calls for jointly identification of the main routes and actions that may lead to fulfilling the dream, which should be especially derived from the positive aspects outlined in the *Discovery* phase. As we have stated before, taking into account the generally unsatisfactory situation of the Romanian RDI system, it is more appropriate that, when designing the way ahead, the suggestions and solutions proposed address the needs, wantings and deficiencies of the system. The positive aspects are mainly related to the certain fact that considerable progress has been achieved regarding most of the areas that required, and still requires, improvements. Almost all of them have registered an upward trend towards fulfilling their mission within the Romanian RDI system, as a confirmation that the general directions undertook are correctly chosen and the individuals and institutions are, general spiking, prepared for, and even open to, further change.

The resistance to change, the inertia are weakend and the general acquired perception is "either entering the whirlpool of change, or out of the system". Looking back at the achievements so far, and looking ahead at the only two alternatives, make up the major factor that ensures the necessary energy and optimism to move forward, to have the courage to assign more demanding standards and to fight rigidity, lethargy and drawbacks. Referring, now, specifically to

the elements of the dream-portrait of the Romanian system of innovation, based on a wide range of documents delivered by public policy institutions, European observers, representative teams of S&T communities, business sector or civil society, we would draw the main suggested actions to be followed in order to reach the dream. These are intended to capitalize upon what has already been achieved, through carrying on, as well as improving, the positive initiatives and expressed intentions.

In order to achieve the three strategic objectives previously depicted, every stakeholder should strive to contribute to *increasing the scientific performance,* support *the development of system resources*, encourage *the involvement of the private sector*, *increasing the institutional capacity and system's functionality*, facilitate and encourage the linkages and knowledge flows within the system, improve *technology and knowledge transfer and business support infrastructure*, expand *international cooperation*. It is worth to mention that these goals are very tightly inter-connected, each of them turning into important driver or barrier to the other objective. Increasing scientific performance, expressed mainly through the improvement of scientometric performance indicators – such as the number of articles in mainstream publications, the number of publications ISI-indexed, the number of patents registered by EPO and OSIM, the share of high-tech patens, the number of innovative enterprises, etc., depends on multiple actors and factors within the system. The policy makers and implementers should steer the research and innovation efforts, through priorities setting at the national level, towards the scientific areas with the highest performance potential and past achievements. Increasing public funding levels should be a high-priority, as fulfilling the strategic objectives require sticking to the foreseen ascending public financial resources alloted to RDI. Public funding alloted to R&D institutions should be carried forward according to the principles already adhered to, encouraging thus only high quality RDI activity: direct correlation between performance and institutional funding; continuously evaluating the accredited R&D units according to international applied criteria, yet with reference standards adjusted to the specific Romanian circumstances; increasingly involving international evaluators, as well as Romanian acknowledged personalities in international S&T communities, in projects ex-post assessment; requiring visible, verifiable and relevant scientific ouput of the projects funded, etc. Effective political instruments for boosting innovation and R&D activities withing the private sector, as well as for strengthening the science-industry linkages would positively affect scientific performance and efficiency of the public financing.

The R&D units, especially those established within universities, with support from policy makers, should focus more and more on attracting and training highly performant R&D personnel, able to raise the standards of their R&D centers. Establishing in Romania poles of excellence and internationally recognized schools of excellence with the critical mass and the needed facilities for high

performance research, with experience in training young researchers through doctoral and post-doctoral studies would be also a priority for achieving higher scientific results. At the research project level, it is highly recommended that the project management be committed to determine the research team to effectively perform high-quality R&D activity and to obtain trully valuable results and output. This depends on various critical factors that are in the control of universities / research institutes management or of political decision makers, such as: proved high-level scientific profile of the research team coordinator; available research infrastructure needed for carrying the project on; available resources necessary for highly performant research. Researchers have also claimed more flexibility regarding the financial management of the research projects (Florian et.al, 2008). It is also very important that periodic internal evaluation of research projects, as well as programmes, be undertaken. Applying the Appreciative Inquiry method would, in these cases, could have the strongest impact on the team performance (Cojocaru, 2008). Achieving the goal of developing system resources requires political initiatives aimed at increasing the share and volume of high-quality human resources and the judicious allocation of funds for research and innovation. As R&D experts suggest (Florian et.al., 2006, 2008), at all decisional levels (from public policy to institutional level), compensation, promotion and assigning criteria should be correlated with professional achievements, with less emphasis on titles, acquaintances or seniority which not encourage young people in search for professional and career advancement.

Opportunities for professional exchange programmes, for scholarships abroad and affiliation to internationally acknowledged S&T communities are other incentives that would stir the interest of young and talented, performant people for RDI field. We would also mention increasing scientific cooperation connections with the Romanian scientific diaspora, development of international cooperation and support for the participation to programs and projects lead to an increased access to large international research programs and infrastructures.

Higher business contribution to RDI funding and improving capacity to absorb European funds for research and innovation are among the most important way to increase financial resources for RDI, along with more efficient spending of public money. In order to attain higher involvement of the private sector in research and innovation, the policy for RDI should firstly carry on pursuing higher correlation with other sectoral policies (industrial, fiscal, financial, competition, etc.) which provide complementary important instruments. Fiscal incentives, access to risk capital and increasing the share of state aid dedicated to innovation support are some of the most frequent recommendations for attracting more private funding for RDI. Increasing the range of instruments intended to raise the propensity for innovation and the demand for new technology would require a higher emphasis on the innovation dimension, as it seems that in the current policy mix, the R&D dimension remains dominant. The access of innovative enterprises to the RDI

financing schemes directed towards co-financing and support of their cooperation with research done in universities and public research & development institutes might be further simplified. A market supply and demand (EC 2008) approach to innovation would improve the match between the needs of the economic units and the offer of the RDI institutions and firms. Innovative companies should reorient the destination of the innovation expenditure from acquisition, most often through imports, of new technological equipment towards in-house RDI activity and cooperation with national research and innovation performers. This would ensure the development of the absorption capacity for research results and technology, and a higher potential for further innovation.

For an amplified institutional capacity and system functionality, the public policy should be designed so as to reduce the RDI system fragmentation by a steadfast process of evaluation and monitoring of research organisations using scientific performance and socio-economic criteria, which have to be met by all institutions applying for public funding (Sandu S et al., 2009). Transformation of the Romanian universities and public R&D institutes into actors on the international knowledge market and the increase of their ability to cooperate with companies has to be accompanied by political and social efforts for developing a cultural and economic environment open to innovation.

Destiny

Inspired by the prior steps of discovery, dream and design, in the last phase of AI path, *Destiny* stakeholders now focus on what exactly is to be done, and start doing. Our paper might represent the inception for a series of Strategic Assessment, or Appreciative Inquiry, initiatives taken at organizational and systemic level. In order that a new positive, participative and engaging approach to the reformation of the national research and innovation system be carried out, a moderator and process coordinator is needed. The most suitable to undertake the mission might be the institution responsible with policy design and implementation, NASR. Following an AI summit gathering representatives from all stakeholder, every entity of the system should thereafter transfer to its members the postitive attitude, the motivation for change and the vision of systemic, institutional and personal goal, path and role, through an own conducted AI process.

We also encourage the application of the AI instrument within R&D programme and project evaluation, as other papers, also, recommended). Both *formative* and *summative* evaluation plays an important role in ensuring effective outcome and efficient processes (Cojocaru, 2008). While the first one regards programme improvement and occurs along the whole programme/project evolution, the other focuses on performance assessment, as programme/project beneficiaries and financers perceive it. Without an expedient formative evaluation, the summative assessment would most probably present unsatisfactory results. Considering Appreciative Inquiry as an instrument in the formative evaluation would eventually

enhance the range of improvement solutions, would increase the engagement and involvement of the team members through turning to best advantage everyone's personal and professional values, desires, initiatives and ideas (Cojocaru, 2008). Given the heavy burden of deep-routed inherited weaknesses and dearths, and especially in a society where the individualistic inclination and mindset prevail over the perspective of societal, communital well being and progress, the Appreciative Inquiry approach – complemented by the need based assessment could prove very much helpful. Empirical research in the field of AI (Chapagain, 2008; Töpfer 2008; Whitney and Cooperrider, etc) attests that exposure of individuals and organisations to appreciative inquiry develop positive traits in individual and responsive organisations to the needed change. Combining participatory decision-making with collective and individual positive thinking, this management tool proves constructive and valuable, especially when the negative aspects are not ignored, but treated as less important, and their mending not as primary goal, but as natural, direct consequence of capitalizing on achievements and strengths in order to fulfill a dream.

Conclusions

Using the Appreciative Inquire method for the analysis of an extremely complex field, such as the RDI system, has allowed us to perform a different type of analysis as compared to the ones conducted so far, in the hundreds of studies made on the Romanian research- development and innovation field. Appreciative inquiry method applied to the RDI system allowed us to discover its positive features, valuable trends and strengthens points as a base for participatory decision-making.

Appreciative inquiry method as *a model of assessment and change by identifying and valorization of positives experiences* leads us towards a positive attitude in evaluation the changes of RDI system because it is not only a scientific method but a tool of changing the minds and life towards an appreciative attitude and behavior, more capable than the negative ones' to contribute to the right decisions. In spite of the numerous critiques and skeptical opinions expressed both, in official documents as in the studies of the various researchers or national or international experts, using of AI method we could conclude that RDI system in Romania has got still a big potential that can be valorized and thus become more performant in the near future.

A major condition for the research and innovation activity in Romania to reach international standards is improving the mechanisms that regulate this field in accordance with the demands of the current stage of international science and technology development and with the requirements of the Romanian economy and society. We reffering especially to the mechanisms of research projects

evaluation, R&D financing, transfering of the research results to the users and last, but not least, rewarding the excellent scientific results and researchers.

We are aware that our approach is mainly a theoretical one and AI method has to be effectively applied and developed at the institutional level, where the motivational dimension of the whole AI process could be harnessed. With a positive attitude, in an encouraging ambience, members of R&D system get together to build on past successes, on the inherited or newly developed strengths, on each-other to commonly grasp the means they have for achieving the *dream* they jointly would then conceive: what should be the master goal and specific objectives their organisation should accomplish in order to fulfill its specific role within the national research and innovation system. The *designing* phase steers to the establishment of the main alternative or complementary routes, which most effectively harness the potential previously discovered and, consequently, eliminate or diminish the identified drawbacks. Thus, the way towards effective action is open. What exactly is going to be done, by whom, when and how are determined during the last step, *Destiny*.

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