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# THE COLLABORATIVE POLES NETWORK AND THE DEVELOPMENT OF AN EFFICIENT ENTREPRENEURIAL ECOSYSTEM

Theoretical  
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## Abstract

*The experience of the past decades has shown that the key features that foster innovation and entrepreneurship are: a dense concentration of human talent, a competitive spirit, easy access to capital, and a supportive environment. It also notes that, to some extent, these can be replicated in and adapted to a wide variety of contexts, even in countries and regions with economies, politics and cultures sharply divergent from the Silicon Valley California generic model. In all these cases, innovative business accelerators are functional and located in areas with critical masses of talent and competitive spirit. In this theoretical paper we show that a network accelerator could be a solution for fostering innovation and entrepreneurship in less developed regions and for attracting further venture-capital investors. This work has been supported by SNF and UEFISCDI within the Romanian-Swiss Joint Research Project IZERZO \_142306 / 1.*

## Introduction / Context

The reality of superior performance of the “group of firms – SMEs / industry” in the Northern Italy, as well as the innovative superior performance of places as “Silicon Valley”, “Bangalore”, etc., gave rise, during the last decades, to a lot of studies regarding these phenomena. So older concepts such as “agglomeration of economies”, “industrial district”, and/or newer concepts as “cluster of firms”, “networks of enterprises”, “development and/or growth poles”, as well as concepts as “economic ecosystem”, “entrepreneurial ecosystem” have been (re)analyzed and (re)discussed in the economic and managerial literature.

By its static equilibrium view, the standard neoclassical economic theory cannot explain these complex phenomena. The Nobel Prize winner, Phelps (2007a, 2007b), observed that the “established body of economic theory” implies a “deterministic future”, instead of treating the modern economy as it really is “an evolving, unruly, open-ended system”.

Generally the economists (especially from the standard economic theory) ignore disagreements about what really is or what might happen (using presuppositions and assumptions to fit their mathematical models) – also, the ambiguity, complexity and uncertainty are ignored, or, are attenuated to probability distributions.

In his Nobel Prize lecture, Phelps rightfully sustained that the “distinctive character of the modern economy” involves “uncertainty, ambiguity, and diversity of beliefs.” Entrepreneurs “have to act on their ‘animal spirits,’ ” often launching their innovations first and discovering the benefits and costs afterward”.

So if in the „ideal, static, economic world” of the neoclassic standard economics there is no place for economic policy for innovation and entrepreneurship as well as for developing clusters, networks or poles of innovative SMEs, in the „real, dynamic economic world” there is plenty of places for such policies, strategies, action plans. Also if in the „ideal world of economic” there is only place for „competition and self-interest” and no place for „collaboration or cooperation as well as for common / community interest”, in the „real world of economic” there is place for both.

## The challenge

In this context the fundamental challenge / issue of the economics (and economic policy) is „how to generate, or how to build the environment for the emergence of, an industry and/or an entrepreneurial ecosystem”. Within this fundamental issue/challenge there is also a basic constraint, a prescriptive one, „deduced” from a practical ethics

with a long term perspective and a precautionary principle: any growth and/or development that do not fulfill the criteria of economic efficiency, ecologic sustainability and social equity (i.e.: profit–planet–people) should not be allowed.

## Main conceptual historical landmarks

The term and concept of „industrial district” was first used, within the deployment of the first industrial revolution in urban areas, by Alfred Marshall in his seminal book „The Principles of Economics (1890), ”to describe an area of a monolithic „heavy industry” , a “thickly peopled” zone (for instance: textile, coal, ship-building, steel, etc.). Since 1980, the concept of „industrial district” was revived by the analysis of the development, after the second world war, of the Northern Italy, of differentiated and dynamic groups of SMEs in different locations (industrial towns).

The concept of „growth pole” (pole de croissance) was introduced by the French economist François Perroux (1991), as a notion that seeks to explain and use of space in economics. A 'pole de croissance' is an industry, or group of related industries, that have growth rates above the national average and the capacity to generate growth through the impact of strong input-output linkages.

The term “business cluster”, also known as an industry cluster, competitive cluster, was introduced and popularized by Michael Porter in *The Competitive Advantage of Nations* (1990). For Porter the business cluster is a “geographic concentration of interconnected business, specialized suppliers, service providers, related industries and associated institutions in a particular field that compete and cooperate.”

The concept of “the new economic geography” developed in the last decades goes further than the “old” one (as the analysis and study of the spatial arrangements, agglomerations, distribution and location of the economic activities across a national territory and the international exchanges), towards an approach that could be called a “branch of anthropogeography”. This new approach was influenced by the development of the “new economy” (the ICT, internet) with all its sophistication brought in by the globalization phenomenon. Also, as Anthony J. Venables shows, “the new economic geography provides an integrated and micro-founded approach to spatial economics. It emphasizes the role of clustering forces in generating an uneven distribution of economic activity and income across space. The approach has been applied to the economics of cities, the emergence of regional disparities, and

the origins of international inequalities". R. Florida (2002) with his concept of „economic geography of talent" analysis the presence, the dynamic and concentration of a creative class and its talents in „city-regions". The „creative class" is seen as "a key intermediate variable in attracting high-tech industries and generating higher regional incomes". The dominant vision and/or metaphor of economy (and its economics – neoclassical economics) is the „mechanism" (see, for instance, Irving Fisher's economic model simulated by „a plumbing mechanism / system"), a „statistical mechanism" that was formalized and mathematized into what is called „the general equilibrium theory" and despite the fact that more and more economists abandon this "metaphor" of economics, it remains the main economic theory taught in university and used by the policy makers, even now, after this actual crisis (that should "never happen"), the first globalized one.

The main, new vision and/or metaphor of economy that emerges is the "economy as/is an ecosystem". The Romanian economist, Nicholas Georgescu-Roegen, farther of the "bioeconomy", in his magnum opus "The Entropy Law and the Economic Process" (1971) endowed the "ecological economics" with a modern conceptual framework, based on a process view and the material, energetic and informational flows in an evolving economy. So in using the concept of "economic ecosystem", the "ecological economics" as Herman Daly (2011) said "must go well beyond the fusion of ecology and economics alone. The complex problems of today require a correspondingly complex synthesis of insights and tools from the social sciences, natural sciences and humanities, ecological economics seeks to promote truly transdisciplinary research in which practitioners accept that disciplinary boundaries are academic constructs irrelevant outside of the university and allow the problem being studied to determine the appropriate set of tools, rather than vice versa".

### **The entrepreneurial and/or entrepreneurship ecosystem**

Give to a "creative mind "an unacceptable situation, a direction and a purpose" and he will find at least one way out. Give then, these results to an "innovative entrepreneurial mind" and he will implement as soon as possible a satisfying pathway from the actual un-sustainable situation to a future sustainable one.

It is a fact that the global economy is now so large that society can no longer safely pretend it operates within a limitless ecosystem, and so its un-sustainability is a matter of evidence. In order to develop an economy that can be sustained within the finite biosphere, it requires new ways of thinking and especially new ways of acting, or even

better, new way of „thinking and acting", id est, economic actors that practice genuine „action-research" activities. And this „genuine actor" has a name – „innovative entrepreneur".

Recently, to characterize the present global context / situation of humanity, Schammer & Kaufer present a landscape of issues (pathologies), called the „3 divides":

-the ecological divide: disconnect between self and nature (e.g.: the global ecological footprint is of 1.5 planets)

-the social divide: disconnect between self and other (e.g.: two and a half billion people subsists on less than US\$ 2 per day

-the spiritual-cultural divide: disconnect between self and Self, between one's current „self" and the emerging future „Self" (greatest potential).

Further on, Scharmer & Kaufer show that, today, the human systems feature significant structural disconnects, such as: between financial and real economy (1.5 quadrillion versus 20 trillion); between infinite growth imperative (actual economic logic) and the finite resources of Earth; between the „haves" and the „haves not"; between institutional leadership and people; between gross domestic product (GDP) and well-being; between governance and the voiceless in human systems; between actual ownership forms and best societal use of property (overuse and mismanagement of the ecological and social commons in epic proportion); between technology and real societal needs (which generates technology bubbles).

Between the best and rapid paths to change this unacceptable situation are: "building entrepreneurial ecosystems" and / or "enhancing collaborative entrepreneurship". Generally, as ecologists Michael Begon, Colin R. Townsend, John L. Harper (2006) said: „the community ecology is the study of patterns in the structure and behavior of multispecies assemblages. Ecosystem ecology, on the other hand, is concerned with the structure and behavior of the same systems but with a focus on the flux of energy and matter"

The "collaborative entrepreneurship" is well illustrated by the book "Collaborative entrepreneurship: how networked firms use continuous innovation to create economic wealth". The authors, Miles, Raymond E., Grant Miles, & Charles C. Snow (1995) conceived a fictional, plausible case 'OpWin' Global Network, to show how the concept of „a multi-firm collaborative network" can be (so „a prescription") a genuine model for developing collaborative entrepreneurship, in a complex and dynamic environment. The concept of "entrepreneurship ecosystem" was developed by Daniel Isenberg in his Harvard Business Review seminal paper "How to Start an Entrepreneurial Revolution" (June 2010), where he describes what "type of environment" is needed by the entrepreneurs to

flourish. In isolation each entrepreneur has little chance to survive, but in friendly, supportive ecosystem his chance is bigger. His recommendations for creating an “entrepreneurship ecosystem” are simple and effective: (1) stop emulating Silicon Valley; (2) shape the ecosystem around local conditions; (3) engage the private sector from the start; (4) favor the high potentials; (5) get a big win on the board; (6) tackle cultural change head-on; (7) stress the roots; (8) don’t overengineer clusters; help them grow organically; (9) reform legal, bureaucratic and regulatory frameworks. If we look at these recommendations with a fresh eye, and having in the background the action-research approach, we better understand that “a genuine entrepreneur is in fact a generic action-researcher” or vice-versa.

The suggestions made by Peter Vogel (2013) in his “The Employment Outlook for Youth: Building Entrepreneurial Ecosystems as a Way Forward” are interesting and valuable: the process is complex, risky, cost-intensive, requiring expertise as well as patience; each ecosystem is unique; developing an ecosystem requires a joint effort (neither top-down government-driven initiatives nor bottom-up individual-driven initiatives can alone create effective ecosystems – it requires a joint initiative with both; holistic and supervised implementation; dynamic bureaucracy, entrepreneurial ecosystem require dynamic and iterative processes; building an entrepreneurial culture.

We also mention here, in connection to an entrepreneurial ecosystem, two other seminal books that are focusing on the idea of “start-up”:

- at national level - Dan Senor and Saul Singer (2009) - „Start-up Nation: The Story of Israel's Economic Miracle;
- at regional-city-community levels, Brad Feld, (2012) – "Startup Communities: Building an Entrepreneurial Ecosystem in Your City, Wiley

The vast majority of net new job creation in the last 30 years has come from new startups--specifically companies created during this time frame. As the global economy continues to struggle, entrepreneurs, through new startup companies, are leading the way in creating new innovations, new products and services, and new jobs. At the same time, they are rejuvenating the economies of many cities around the world as they create the basis for the next wave of economic growth. There is a startup revolution happening throughout the world. Brad Feld in his "Boulder Thesis" lays out the four key components of a framework for this ecosystem:

- Entrepreneurs must lead the startup community.
- The leaders must have a long-term commitment.
- The startup community must be inclusive of anyone who wants to participate in it.

- The startup community must have continual activities that engage the entire entrepreneurial stack

### **The need of genuine talents to give life to the collaborative poles to develop a sustainable entrepreneurial ecology**

Humans (with their talents, skills, motivations, etc.) and their learning are the most important drivers of a sustainable knowledge based economy, especially if they are clustered in “city-regions” and they collaborate in entrepreneurial ecologies. Learning, learning policy and innovation, as recently showed Joseph Stiglitz & Bruce Greenwald in their seminal book “Creating a Learning Society – A New Approach to Growth, Development and Social Progress” (2014), are the main drivers of sustainable economic development. In this context the caducity of the „Washington Consensus policies”, that were predicated (or better, are still predicated) on the assumption that markets, by themselves, are efficient, and that therefore the major source of inefficiency or mal-performance of the economy arises from government interventions, becomes evident. So, with the words of the authors, „the first item in the reform agenda is to eliminate these interventions with the market. The only (or at least the main) economic role of the government was to ensure price stability and property rights (including the enforcement of the contracts). Thus the Washington Consensus, and the ideology on which it was based, gave short shrift to market failures. When they grudgingly admitted to market failures, they suggested that government was not capable of correcting these market failures, because of ”political economy” reasons.”

And, as further on showed Stiglitz & Greenwald, ”in their aversion to industrial policies, the Washington Consensus policies focused on static efficiency. They did not even consider the consequences for innovation and learning. If there were learning and technological progress, it was assumed to be exogenous, outside of the purview of policy, and certainly outside the purview of the economic policies on which they focused. That this was so was striking, given the observation that development is so much about learning and economic transformation .”

The innovation and economic growth in a city-region, are, according to Florida, directly proportional to its openness to creativity and diversity, summarized into his “3 Ts” of economic development: talent (the percentage of the population with a university degree), tolerance (the percentage of the population born outside the country) and technology (the percentage of jobs in the high-tech sector).

Florida developed four variables to measure the performance of city-regions and determine their position in the creative class ranking:

- the Talent Index, which is the percentage of the population (20 years and over) with a bachelor's degree;
- the Bohemian Index, which measures employment in artistic and creative occupations;
- the Mosaic Index, which is the percentage of the population that is foreign-born; and
- the Tech Pole Index, which reflects a city-region's degree of specialization in technology-intensive activity.

### **Towards an ecology of finance to fuel the entrepreneurial ecology**

The evolution of the phenomena in the last years showed us, once again, that when the finance do no longer support the economy (finance as a service to the true economy), and transforms itself into a “gambling, casino finance” that dominates the real economy, will sooner or latter trigger a (global) economic crisis.

In order to change the “financial system” in a right direction, first it is necessary to understand how it works, what it is its role and what are the functions, etc.

One of the genuine and interesting proposal to reform and to transform the financial system was done by the “New Economics Foundation”, that built on the work of Nobel Prize winning economist, Robert Merton (1995), who identified the six core functions of the financial sector in the economy. Finance needs to provide:

- A payments system for the exchange of goods and services.
- A mechanism for the pooling of funds to undertake large-scale enterprise.
- A way to transfer economic resources over time and across different regions and industries.
- A tool to manage uncertainty and control risk.
- A signpost providing price information, helping coordinate decision-making in various sectors of the economy.
- A solution to the problems of asymmetric-information and contradictory incentives – when one party to a financial transaction has information that the other party does not.

In combination, these six functions add up to the primary function of the financial system. By adapting Merton's formulation in the alternative White Paper of the New Economic Foundation, it may be describe as follows: “To facilitate the allocation and deployment of economic resources, both spatially and temporally, to environmentally sustainable activities that maximizes long-term financial and social returns under conditions of uncertainty”

Within this approach, it is also needed to develop investment models to determine what sustainable entrepreneurial projects to finance. One of the most interesting models is “Democratizing

Entrepreneurship Village Capital's Peer Selection Model” used by the venture capital – Village Capital (a nonprofit that operates business accelerator programs for game-changing entrepreneurs worldwide. It also operates an affiliated investment fund that invests capital using a unique peer selection model where the entrepreneurs themselves choose who will receive catalytic funding in their cohort)

In using this model, as Ross Baird (2013) said: ‘Rather than asking analysts, judging panels, and prize committees to deem which innovations are worthwhile, our model empowers the innovators themselves to decide which ideas go forward and receive funding. After successfully completing 15 programs around the world and investing in 30 companies, I can say with confidence that democratizing the entrepreneurial process leads to stronger results – at a fraction of the cost of traditional investment models”. So, the ethos of community is embedded, by making direction setting bottom-up and outside-in and by experimenting more often and more cheaply.

### **The Romanian case**

Romania is now in a very difficult situation. No matter from which perspective you look, a broader one (territorial capital perspective), or narrower one (only human capital perspective), it is in the worst situation: negative balance flow of human capital and a decline in the number of researchers.

Only Romania suffers both of a chronic brain drain and of a persistent decline in the number of researchers (see below Figures. 1 and 2). According to the World Bank, in 1996 the number of researchers per hundred thousand inhabitants was 133.6, and in 2012, Romania has only 82.8 researchers per thousand inhabitants, which is the lowest figure in Europe. The next country, Bulgaria, records an almost double number of researchers, 155.2 per hundred thousand inhabitants.

This highlights an extremely precarious situation of Romanian human capital, able to become innovative entrepreneurs. So the potential to generate and succeed in local entrepreneurial projects, especially regarding growth start-ups, is very low.

So we can speak, of an extremely negative situation of Romania in terms of „transforming” native human talents into skilled entrepreneurs. Entrepreneurs are very special types of thinkers and learners – they specifically use nonlinear (intuitive, creative, emotional, informal, action-oriented) thinking and learning styles and rarely linear (analytical, rational, logical) styles. Pragmatically, entrepreneurship can be viewed as a way to respond to environmental, cultural, social, legal, economic, financial, managerial, technical, etc . challenges. That is, it can be viewed as an action-

learning process in which the will factor plays a major role and in which specific intrinsic (passion) and extrinsic motivations are decisive. As Le Bret shows, the (innovative) entrepreneur needs “passion and ambition; [a] pioneering spirit which accepts uncertainty and risk-taking, which tolerate failure; innovation via a trial and error process; [a] feeling of urgency and patience from the social environment; rapid growth and [a] critical mass; motivation, hard work, connections, personal networks, mentors;...experienced teams backing the founders and motivated by [an] optimized capital structure”.

In addition to learning and assimilation of the specific knowledge and practices, emotional aspects, those related to the will, confidence and courage, that cannot be treated purely rational in the formal education, are essential features to be cultivated during entrepreneurial education.

Therefore the entrepreneurial learning is viewed from a broader perspective, in order to capture the unassisted learning components (informal), and the metacognitive specificity of entrepreneurs

### Conclusions

Urgent and radical measures are needed to generate, or to create in Romania an environment favorable to the development of an innovative entrepreneurial or creative class. And these measures must constitute a coherent process system (collaborative network, ecology) in order to organically grow an efficient and effective entrepreneurial ecosystem.

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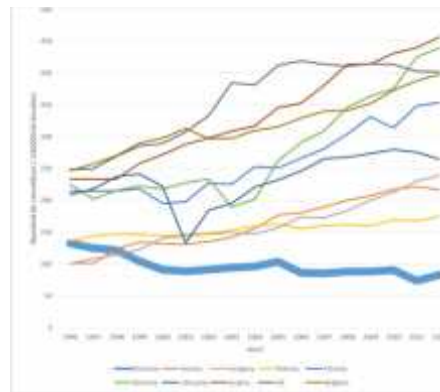
Appendices

Figure nr. 1 - Researchers' weight and specialists balance flow in 11 EU countries  
(top 3 performers and top 8 negative-performers)



Source: EUROSTAT, 2014

Figure nr. 2 - The evolution of the number of researchers in Romania in the period 1996 – 2012



Source: INS, 2014

