“Sustainability and Innovation in the Romanian Entrepreneurial Ecosystem. An Exploratory Study”

Varianta in limba engleza a studiului “Sustenabilitate și inovare în ecosistemul antreprenorial din România. Studiu exploratoriu”

Denumire pachet de lucru *:* A4.6. Cadru strategic privind antreprenoriatul inovativ

Autori:

Unitatea Executivă pentru Finanțarea Învățământului Superior, a Cercetării, Dezvoltării și Inovării (UEFISCDI)

Introductory remarks

The present report provides an up-to-date account of the latest data and assessments regarding the Romanian entrepreneurial ecosystem (henceforth, REE) and innovation development. It offers an inside-out perspective provided by interviews with entrepreneurs, innovators, professionals, consultants and various experts and an outside-in perspective by comparatively analysing country indicators. Specific recommendations, with particular relevance for policy action are drawn.

This time marked the beginning of a growing interest for supporting social and economic entrepreneurship worldwide. In 2015, efforts to support social and economic entrepreneurship at the national level were in their infancy and some exploratory researches appeared (Herman and Szabo, 2014; Curaj et al, 2016). Until now, efforts have been made but much remains to be done in terms of the capacity to analyse and develop the (innovative) entrepreneurial ecosystem (Radauer and Roman, 2016; Andrez et al., 2017; Chioncel, 2019).

After 5 years, the follow-up study on the REE looks at the extent to which Romania has succeeded in building a more conducive environment for entrepreneurship, and it seeks a better understanding of the facilitators and obstacles with regard to innovation and the development of business expansion.

The overview of the Romanian entrepreneurial ecosystem is neither evident nor intuitive. Its Index grew with 30% in the last 5 years due to the more mature behaviour of its participants and due to the support offered by the government for start-up activities. Though, comparative to other ecosystems, this maturity is counterbalanced by the lowering of the country performance in innovation for the last decade, coupled with the lowering in international rankings with respect to governance and corruption.

This maturity existent at the level of the ecosystem should be supported adequately through creating the sustainability of the entrepreneurial activities and laying the foundation for innovation. Hence, specific recommendations, relevant for the future public policies are offered.

Key Findings for the Entrepreneurship Development

Today, resilience and innovativeness bring high-performance to the country's entrepreneurial ecosystems. High-performant national entrepreneurial ecosystems are to be observed in countries of small dimensions, because they more easily facilitate strong collaboration between the ecosystem's actors and support businesses to go international, as has happened in Denmark, Switzerland, Estonia, Israel or South Korea.

The purpose of this study is to provide an analysis of the Romanian entrepreneurial ecosystem and formulate a series of recommendations aiming to boost its performance in innovation and sustainability. The study brings together, in an original way, the recommendations of the country reports (e.g. GEDI, 2020, PSF 2017) and those formulated by the participants into the ecosystem. In this way, the entrepreneurial ecosystem is viewed both from the outside, compared to other ecosystems, and from the inside, as understood by entrepreneurs, innovators, business consultants, researchers or policy makers.

The Romanian Entrepreneurial Ecosystem Index 2020 (REEI) shows an increasing trend since 2015 - it has increased by 30%, from 4.5 to 5.8 in 2020, on a scale from 1 to 10. The index is a tool for analysing and was created in 2015. It helps the understanding of the degree of the ecosystem maturity. It emphasizes the capacity of the entrepreneurial ecosystem to create, grow and provide support for entrepreneurs.

There is evidence of a significant progress having been made in creating a functioning and successful environment for entrepreneurship, according to the REEI. However, this growth is limited by legislative complexities, lack of access to information and poor identification of opportunities (Small Business Act, 2019; PSF, 2017). Removing the limiting factors would increase the attractiveness of the ecosystem for those with a higher education and an orientation of consulting and mentoring services from business to development, thus creating a more resilient ecosystem.

Previous policies have aimed to increase the number of companies and jobs and, thereby, to increase the ecosystem's dimension. Further on, policy efforts and support programs need to come together in a coherent manner in order to increase ecosystem quality, sustainability and, above all, the development and exploitation of its innovation capacity. In time, the number of successful companies and the number of new jobs will increase as a result of a performant entrepreneurial ecosystem.

The study opens with three key recommendations for developing the sustainability of the entrepreneurial ecosystem:

1) Supporting the development of opportunity-based entrepreneurship;
2) Fostering networking and knowledge exchange among the ecosystem's participants and facilitators
3) Developing a Data Ecosystem as the first premise for making relevant and evidence-based decisions to increase ecosystem performance.

Supporting opportunity-based entrepreneurship involves orienting support programs towards:

1) businesses that have tested ideas and not just a business plan, thus aiming to increase the number of businesses that exploit market opportunities and
2) developing specific programme support for business internationalization.

Growing networking is a top priority as today, cross-sectoral and international collaborations lead to innovation and business internationalization, which also improve the entrepreneurial ecosystem (Interviews, 2020; GEDI 2020).

Creating a data ecosystem to support entrepreneurship is the first prerequisite for evidence-based decision-making and actions prioritization.

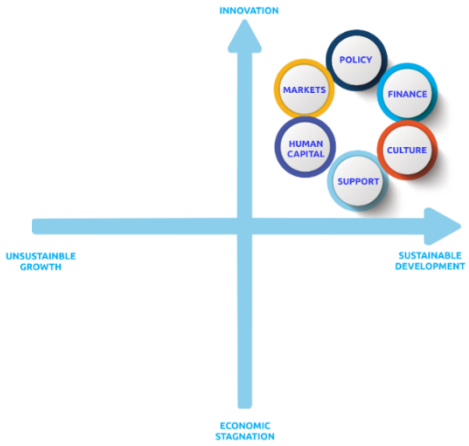
The present study reconfirms that the entrepreneurial environment is insufficiently attractive for those with higher education (Own survey, 2015; 2020). The current entrepreneurial environment discourages them to start and develop businesses, and the innovation potential stays poorly exploited (Romania ranks 96 out of 137 countries), and the degree of sophistication of the business environment is very low (Romania ranks 116 out of 137 countries) (Global Competitiveness Index, 2018).

Strengthening an entrepreneurial ecosystem through innovation employs the development of interventions that would lead to:

1) collecting research needs from practice;
2) the protection of intellectual property rights in the internationalization process;
3) creating an environment conducive to trust and collaboration within universities and public research organizations (Own survey, 2020);
4) strengthening collaborations communities across sectors and internationally in order to exploit research results.

For advancing the understanding of the entrepreneurial ecosystem and its innovativeness and sustainability, *The Innovative Entrepreneurship Spectrum* (henceforth, IES) has been designed. This spectrum is a useful tool as it can convey information that would be difficult to convey with words alone. These types of representations encourage haptic and visual thinking which support the design of policy thinking and communication of the vision for bringing change into the entrepreneurial ecosystem.

This spectrum classifies entrepreneurial ecosystems based on the issues of sustainability and innovation. Entrepreneurial ecosystem is seen through the performance of the 6 pillars: policy, support, human capital, culture, finance and markets.



It is relevant if the entrepreneurial ecosystem is placed on the axes of sustainability and innovation and it is less relevant for the overall picture which pillar is on the sustainability and which on the innovation axis. That is because each ecosystem has its own specificities.

Figure 1 The Ideal-Type of the Innovative Entrepreneurial Ecosystem

Acknowledgements

This is the second report of the Executive Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI) on the Romanian Entrepreneurial Ecosystem. Its purpose is to assess and further contribute to the understanding of the Romanian (Innovative) Entrepreneurial Ecosystem and to offer a series of recommendations to decision makers. We are much indebted to the participants of this study for sharing their valuable insights. They work in this ecosystem against all odds. Among them, there are stakeholders from all areas of the Romanian entrepreneurial ecosystem, such as entrepreneurs, innovators, policymakers, academics and intellectual property and business consultants.

Content:

List of figures:

PART ONE. Prologue: Successful Entrepreneurship Ecosystems and Romania's Development Strategies

1.1. Countries that have a successful entrepreneurship ecosystem

Globally, entrepreneurship has received much attention due to its promises of economic growth and social inclusiveness.

At the beginning of the 21st century, studies in entrepreneurship began to flourish and a decade later there was a significant number of analyses investigating what was conducive or inhibiting the potential of entrepreneurial ecosystems. There are some studies which focus on entrepreneurial activities in Romania, although they have not commanded much interest. However, the last 5 years have witnessed a growing interest in studying Romania's entrepreneurial ecosystem.

Generally, the ecosystems framework of analysis is applied to countries comparatively much smaller than Romania. There, ecosystems success stories are to be found, such as the "Silicon Valleys" of Switzerland, Denmark or Finland. The most common explanation is that the small size of their domestic markets led to early economic openness (David and Match, 2006). On the same par, according to evidence, the density of entrepreneurs and public research organizations in a given area enable higher rates of regional development, innovation and sustainability which much impact on a small country ecosystem (Morris, Neumeyer & Kuratko, 2015; Kuratko, Morris & Schindehutte, 2015; Müller, 2016).

The case of Estonia, 'the Baltic Tiger' is symptomatic: a small country which developed innovative public services and engaged in the latest technologies in cooperation with its entrepreneurs. The government's strategy of cooperating with private enterprises enabled it to quickly meet its own needs for innovation and entrepreneurship, and allowed it to provide a valuable and competitive service on the international market. Asia has its four 'Tigers, or Dragons', Hong Kong, Singapore, South Korea and Taiwan. They too boosted their economies but in much more different entrepreneurial environment than the Baltic Tiger (Kshetri, 2013; 2014).

Generally, larger countries present more internal disparities in development, which much relativize the value of one framework or country indicators. However, we look at how to encourage the growth of the country ecosystem through recommendations for strengthening entrepreneurship and innovation and believe that the discrepancies between and within the regions should be addressed through policies with a strong emphasis on education, and not solely by promoting entrepreneurship.

The case of Romania poses a challenge to the ecosystem framework, due to its disparities in development: in Romania, there are sharp contrasts in entrepreneurship and innovation. The policies are commonly biased, favouring start-up companies in underdeveloped regions and neglecting scaling-up and innovation in the developed regions.

LESSON LEARNED: It takes political will to build an innovative entrepreneurial ecosystem.

When applied to countries of relatively small size, the framework of an ecosystem allows for a thorough analysis. It is possible that small countries are more successful in coordinating the country's resources and bringing together the state and private institutions, such as education, research and development under one umbrella and, equally, at reducing the shadow economies (Schneider and Enste, 2000). High levels of coordination result in faster and more stable growth and expansion. This, in turn, enables the small country not only to successfully meet the needs of its own innovators and

entrepreneurs but also to promote their services on the international markets of innovation and entrepreneurship.

In the following, we present the case of Chile, which succeeded in building an entrepreneurial ecosystem while significant barriers were blocking its way.

Start-up Chile has a business accelerator programme supporting the Chilean Governments' efforts to put Chile on the innovation map in Latin America and worldwide. The main rationale is to empower Chilean entrepreneurs and to stimulate the development of the entrepreneurial ecosystem in Chile. In terms of entrepreneurial culture, the two dimensions of the programme are: to increase the number and the quality of the start-up initiatives and to encourage local entrepreneurs to think globally.
The programme builds its specificity on a combination of support instruments: grants, training programmes, a one year working visa available for foreigners, office space for six months in Santiago and access to local support services.
Its first objective is to attract foreign talent to Chile. Foreign entrepreneurs are considered a source of entrepreneurial energy that, when imported into Chile, could bring the country closer to the main worldwide innovation centres, and contribute to the development of the Chilean entrepreneurial ecosystem. Second, the programme aims to attract projects beneficial to Chile. The presence of imported innovative start-ups in Chile may contribute significantly to creating innovation in both small, local, and national companies and to further develop Chile's industry by providing technical know-how in the transition from traditional industries to the technology revolution that is taking place globally. Third, the programme aims to stimulate the establishment of international information technology networks. It is hoped that the success of this programme will mean the return of many highly educated Chileans to their home country, where they can invest in their careers and contribute actively to the development of Chile. The fourth aim of the programme refers to stimulating return of Chilean young people studying abroad (Start-Up Chile, 2020; Gerencia de Emprendimiento, 2017; Saftescu, 2018).

1.2. Romania's entrepreneurship development strategies

Romania offers a mixed picture with respect to assessing entrepreneurship, as the Small Business Act noted in its 2019 assessment (SBA, 2019) and so it becomes difficult to decide which policy measures need to be prioritized. Discrepancies in development are reflected in discrepancies in the entrepreneurial ecosystem. The logic of overcoming discrepancies and cleavages dominate the political scene: the cleavages between the regions, within the regions and those between Romania and western countries.

The sharp contrasts of development between and within the Romania's regions, make it difficult to measure Romania's entrepreneurs' ecosystem. There are marked regional differences across Romania and there are acute and steep differences between urban and rural regions throughout the country. There are major cultural differences between Bucharest and other cities and there are major differences among cities in the same regions as well. These acute differences are the legacy of centuries of discrepancies and unequal development (Bertelsmann Transformation Index, 2020).

Some are concerned with the idea that Romania is lagging behind, and should, in time, overcome its developmental insufficiencies following the Western model of development. This approach has been

shared to some extent during the European Union accession, when gaps were narrowed and much progress was achieved (Murgescu, 2015).

It is now over 20 years since the European Union invited Romania to begin membership negotiations. Costs were high for the European Union, as Romania did not have the means by which (without financial support) it could become a developed nation - a requirement for membership in the European Union. With financial support from the European Union, Romania experienced sufficient development to enable it to become a member in 2007. Since then, Romania has continued to receive financial support from the European Union. This investment has been used to develop much of Romania's infrastructure to satisfy international standards. However, many parts of the country remain underdeveloped.

The European Union leverage can instil positive change in a weak institutional context that changed during the accession process through European Union pressure with respect to institutional change, reducing corruption and the Rule of Law. The process was not intensively continued after Romania was accepted as a European Union member state as post-accession conditionally is weak or non-existent. Today, if we leverage the development towards European averages, we will often find Romania, as the historian Tony Judt put it, (Judt, 2001), "at the bottom of the pile" with respect to the performance in entrepreneurship or innovation or at the top in matters such as infant mortality rate or trust deficit.

During the last decade, the gaps between Romania and Western nations have continued to widen in innovation and good governance, which much affect the sustainability of the country entrepreneurial ecosystem. That is because Romania focuses on growing the number of enterprises regardless their nature and impact on the ecosystem, while the others focus on innovation and businesses with higher added value. Most of the Romania's national strategies, generic and without an operationalized rhetoric, continue to share the 'quantitative' approach.

It shows that that the gap between Romanian performance and European Union average has been widened following a few steps which have led to the current competitive advantage of the developed nations. These steps refer to: intensifying the entrepreneurial activity through increasing the number of SMEs, the number of business incubators and accelerators, intensifying the innovative activities through increasing the number of knowledge transfer centres and such. This approach rather leads to emphasize the weaknesses of the Romanian entrepreneurial ecosystem in terms of insufficient number of SMEs, poor innovativeness, insufficient entrepreneurial growth and stability.

The catching up strategy of following the Western way of development is more like designing a quantitative strategy, to follow the increase of the number of various indicators. Choosing the own way implies a qualitative understanding of the current situation and taking steps further, with a solid quantitative measuring of the efforts. Moreover, a strategy requires vision and values.

Some professionals were also emphasizing the need for more reliable macroeconomic strategies. According to Cioc and Ursacescu (2017) national and regional policies should be qualitative and oriented towards encouraging the creation of productive (and not destructive or unproductive entrepreneurs, for a detailed discussion about this distinction see the section: "Nurture productive entrepreneurship our from opportunity") entrepreneurs rather than merely increase the number of entrepreneurs (Inci, 2013). Nicolau and Foris, (2018) recommend to change focus from entry density towards a more real and accurate research on the connection between education (academic and vocational) and working experience, on one hand, and in the fields of activity needing real business development so as to show economic performance (Nicolau and Forris, 2015). Baba (2016) shows that

performance is not just about an entity's ability to make profit, but also its ability to pay its short and long-term debts and that should also be included in assessments of the robustness of the country entrepreneurship.

It is argued that even if Romanian development is comparative to Western countries', it may follow a different path of development. This is the case of countries which came to achieve significant development without designing a catching up strategy. These countries continue to show discrepancies and asymmetries comparatively to others, but their way to further development stays competitive.

This approach implies that there are multiple ways of development. For example, comparative research of the successful development of Estonia and South Korea, the Baltic Tiger and any one of the four Asian Tigers, shows that the way to entrepreneurial success may significantly differ according to context (Kshetri, 2014).

Lesson Learned: There are multiple ways of development and there are multiple ways of growing an entrepreneurial ecosystem. For doing that, the existent strengths and potential need to be taken further.

The Romanian entrepreneurial ecosystem has more to gain by taking into account its own historical potential and inherited strengths rather than focusing its effort on imitating foreign systems or trying to reach an abstract European Union's average. Though, that does not refer to 'doing in our own way'.

1.3. How to assess the entrepreneurial ecosystem: The Innovative Entrepreneurship Spectrum

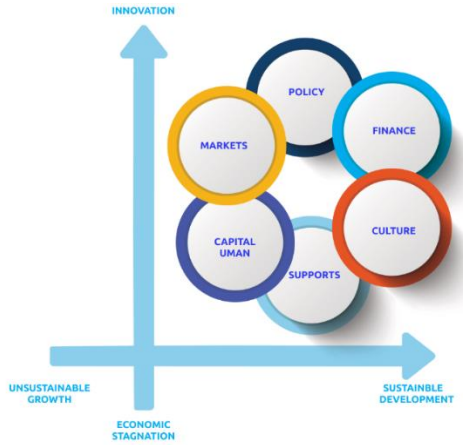


Figure 2 The Ideal-Type of the Innovative Entrepreneurial Ecosystem

For advancing the understanding of the entrepreneurial ecosystem and its innovativeness and sustainability, we designed *The Innovative Entrepreneurship Spectrum* (henceforth, IES). The spectrum consists of a two-axis chart on which the 6 pillars of the entrepreneurial ecosystem are presented.

This IES tool enables the user to assess the situation in Romania with regard to each individual domain. Firstly, we will describe the ideal type of the entrepreneurial ecosystem.

The horizontal axis assesses every possibility from unsustainability to sustainability, while the vertical axis assesses innovativeness, from economic stagnation to rapid innovation growth.

There is a dynamism and flexibility of the ecosystem in the sense that some elements might be inter-changeable. For example, 'Policy' can orient towards innovativeness or support and 'Culture' may facilitate sustainability rather than disruptive changes.

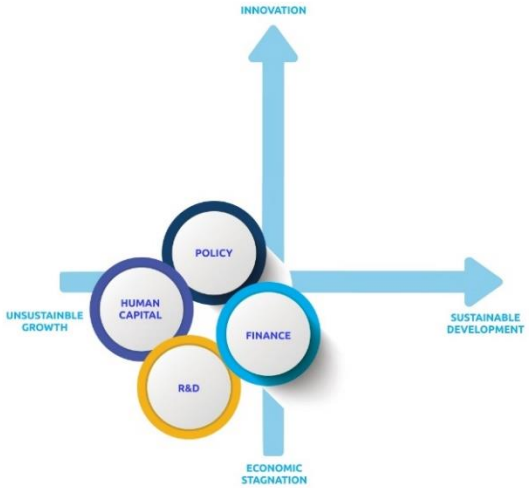
We will look closely on how each pillar is affecting the country entrepreneurial ecosystem in the sections which follow. We use this spectrum representation as a useful tool as it can convey information that would be difficult to convey with words alone. These types of representations encourages haptic and visual thinking which support the design of policy thinking and communication of the vision for bringing change into the entrepreneurial ecosystem. For example, the representation allows us to 'see' that if Human Capital and Policy are on the axis of unsustainability, we understand more easily why Romania is on a decreasing trend in innovation and in the last few years scores last in European Union. Therefore, we can design policies for innovation in order to 'move' the focus of policy from entrepreneurship towards productive and innovative entrepreneurial activities. At the same time, we shall take measures for decreasing brain drain and connecting Diaspora productively through temporary engagements in research and innovation, which means taking 'Support' from economic stagnation towards innovation.

1.4. The IES from a historical perspective

A thorough and thoughtful analysis of the Romania's path towards economic development is offered by Murgescu (2015) when discussing five centuries of economic gaps' storage, cumulative differences, by Romania.
Ever since, Romania has been comparing itself with Western nations, and for more than a decade comparing itself to an abstract European Union average. The logic of "closing the gap" at the policy level, between Romania and western countries, is older than a century.

When discussing the Romania's five century of economic gaps accumulation, Murgescu (2015) shows that comparatively, other countries invested in education and technology and, in time, the Romania's weak institutions and gaps in promoting education and technology absorption led to gaps which accumulated at a faster pace. Human capital and R&D continue to be the most limiting factors for the gaps' experience acquired by Romania over the centuries and which increased starting at the end of the 19th century.

Figure 3 The Innovative Entrepreneurship Ecosystem from an historical perspective



The rural areas continue to be strongly affected by poor infrastructure, social marginalization, aging population and depopulation. These factors block the much-needed social reforms for rural development and investment in education. The existing legacies continue to block reforms and make Romanians living abroad reluctant to return to Romania and contribute their skills and experience to the development of the country.

The historical legacy of 'the own way of doing businesses' should be also addressed. There is much talk about the 'potential' of Romania and many references either to the potential of human resources or to the underexploited rural potential (Harpa, Moca and Rus, 2016).

Those who can bring change at the level of system, is the political class, local administration and governmental administration. University or business are not so strong to compensate the weaknesses of the state. The only solution is to import massive know how as part of an extraordinary benefit of being part of the European Union (interviewee, creative sector, 2020). Though, it is recommended to assume the import of know-how as people or organizations and never to promise by ourselves. The change needed are big and the capacity is still to be built.

This opinion is largely shared among experts and professionals and we reinforce here the recommendation of tapping into the huge potential existing in agriculture in the global context of climate change and the rise in the relative prices of basic commodities (Daianu and Murgescu, 2013; Varujan Pambuccian, 2020). Wagner et al (2018) show in the country report on governance, that if Romania registered the highest economic growth in EU in 2017, that was based on private consumption, and it is not sustainable, and more, the governments failed to address the long-standing problems, including those associated with the cumbersome procedures for businesses.

PART TWO. Key Recommendations for the Entrepreneurial Ecosystem

2.1. The Entrepreneurship Ecosystem Index

In 2015, 'The Entrepreneurship Ecosystem Index' was conceived to assess the robustness of the entrepreneurial ecosystem in Romania, in the paper "The Romanian Entrepreneurial Ecosystem. An Exploratory Study". After 5 years, a new analysis has been conducted in order to assess the entrepreneurial ecosystem situation, see how it has changed since 2015, and formulate recommendations.

Compared with 2015, the development of the entrepreneurial ecosystem increased by 30%, from 4.5 to 5.8 in 2020, on a scale of 1 to 10, and it is evidence of an increase in the development and robustness of the ecosystem.

The maturity of the entrepreneurial ecosystem is apparent in the tendency of detachment from a model where the entrepreneur is acting independently within the ecosystem towards a model where the entrepreneur often finds him/herself in a network, with various resources and communities:

Figure 4 Romanian Entrepreneurship Index

1) Today, entrepreneurs are inspired by success stories more than family and friends,

2) Financial programmes for start-ups have increased in number, comparative to the family and personal financial support, that is available,

3) More and more consultancy advice is being accepted,

4) More financial and non-financial support programmes are developing and

5) The investments in other entrepreneurial activities have increased.

Compared to 2015, the inspiration sources for becoming an entrepreneur are more diversified: sources other than family and friends inspire entrepreneurship, among which the most frequent are previous work experience in other organizations (23%) and other entrepreneurs (18%). There are some differences in the diversification of the financial sources to start a business as well, much more in the sense that bank loans and grants are used along with personal or family savings. More, many new entrepreneurs ask for consultancy and they are willing to invest and these add value to the present ecosystem.

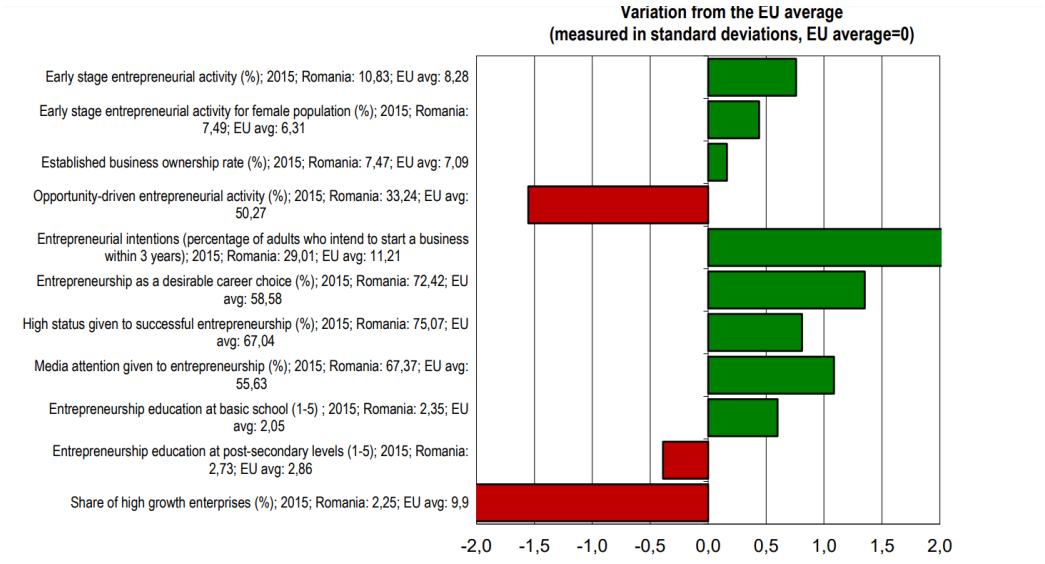
2.2. Support entrepreneurship out from opportunity

Small Business Act (2019) shows that early-stage entrepreneurship, along societal norms, media attention and entrepreneurship education, scores high for the case of Romania.

The studies focused on the entrepreneurial ecosystems introduced the distinction between the entrepreneurship based on opportunity and entrepreneurship based on necessity. The working definition introduced by the Global Entrepreneurship Monitor (GEM) is widely referred to: opportunity denotes the drive to bring an idea to the market, while, in opposition, entrepreneurship based on necessity is understood as entrepreneurship born of the lack of alternatives on the labor market. The first is more likely to increase the value of the ecosystem in general. And, according to one of our interviewees, it conveys something different from the ideas of making money or being your own boss (interviewee, innovator, 2020). In Romania, opportunity driven entrepreneurship is much lower than the European average.

Research shows necessity entrepreneurship does not contribute to technological change and economic development (Kontolaimou and Giotopoulos 2015; Acs and Varga, 2005; Acs, 2006). By supporting a large number of necessity-based entrepreneurial ventures, Romania had the opposite than expected results; the greater the necessity-driven entrepreneurship, the higher the inter-country technology gaps in Europe related to innovation production. In contrast, promoting opportunity entrepreneurship proves sustainable for the ecosystem.

In Romania, a high proportion of entrepreneurs reported that they started a business due to a lack of opportunities in the labour market (OECD, 2018). The lack of opportunity driven entrepreneurship is a major handicap in the country's development and has a damaging effect on the country's ecosystem development sustainability.



Note: Data bars pointing right show better performance than the EU average and data bars pointing left show weaker performance.

Source: Small Business Act, 2019

More, when insufficient optimal conditions for business environment are present, the supply of necessity entrepreneurship will not bring the desired effects of generating jobs and not only that the

effect is not lasting but it might be reversed by creating instability and further economic gaps. For example, research finding shows that the inter-country technology gaps are deeper when the number of the necessity driven entrepreneurs is higher (Kontolaimou and Giotopoulos, 2015).

Lesson learned: Research emphasizes that the state should not support entrepreneurship which is born out of no other job options or just as an alternative to supplement the income. The reduction of the necessity driven entrepreneurship, such as the one encouraged by the programme Start Up Nation, must become a national priority.

Thus, in line with the above-mentioned research, we reinforce our findings and recommendations from the previous exploratory study (2015) which referred to encouraging entrepreneurs with higher education to enter the ecosystem as the data has shown that they impact and contribute more intensively and positively to the growth of the ecosystem. This is also in line with Nicolau and Forris's recent study (2018), where they construct reliable macroeconomic strategies which connect education and working experience with real business development needs in order to reach higher economic performance. There have been 5 years now since our original research findings showed that people with higher education and working experience contribute more to the development of the ecosystem. Therefore, we continue to stress that, a mature and progressive economic ecosystem needs to be developed. This development should be based on an opportunity driven entrepreneurship by encouraging entrepreneurs to be part of the entrepreneurial ecosystem.

Successful entrepreneurs are those who enrol in productive and innovative entrepreneurial activities, have a high level of education, work in sectors with a high technological level, who are open to internationalize their business and creates sustainable jobs. Inefficient entrepreneurship is the necessity-driven entrepreneurship with a low level of innovation and a low impact on job growth.

But when dealing with concepts used in various international settings, one needs to be careful how they resonate in the Romanian national cultural environment. Entrepreneurship programs are seen by many as an 'opportunity' for their financial and mentorship support. Though, there is not sufficient evidence to assess the impact of these programs on the general development and productivity of the entrepreneurial ecosystem. One of the interviewees emphasized that in the case of Romania, many competent persons choose entrepreneurship not because of an opportunity identification, but because of being unsatisfied with the employee environment. These entrepreneurs are an asset and they should be nurtured, as they exhibit a high standard of drive and initiative, and will positively contribute to the ecosystem (informer, business consultancy, 2020).

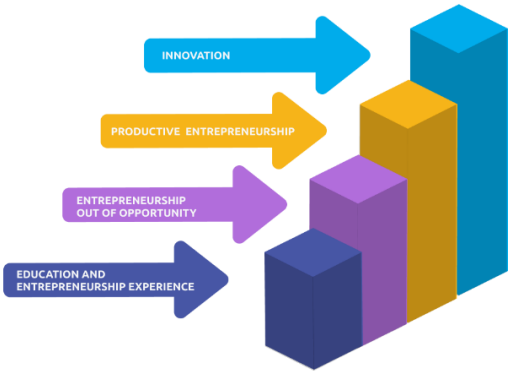


Figure 5 The importance of education and experience in opportunity-based entrepreneurship and innovation

'Opportunity' as a term, has a peculiar connotation in the Romanian language, which heavily resonates with opportunism, clientelism and favouritism. The wild market conditions after 1990s affected the Romanian society morale, and any way of making money came to be seen as an opportunity. 'Opportunity' in Romania also has the connotation of 'making money' which might be destructive to the ecosystem.

Today, in Romania, many continue to prefer the comfort of employee status not because of the lack of opportunities, but because the time and procedures required for maintaining a business dissipate the effort on exploiting the market opportunity. Thus, the entrepreneurial ecosystem grows too little through the contribution of people with higher education who do not survive in the current business environment (interviewee, business consulting, 2020) and, therefore, value-added entrepreneurship and innovation are prevented from entering into the ecosystem.

2.3. Growing networking

Romania's entrepreneurial performance is assessed based on the Global Entrepreneurship and Development Index (GEDI, 2020) proposed by Acs&Szerb (Acs et al., 2013). GEDI permits a multidimensional analysis of entrepreneurship in comparison with Global Entrepreneurship Monitor (GEM) and World Bank (WB) data. The last report on Romania released by Global Entrepreneurship Monitor was in 2015/2016.

Romania ranks 46 out of 137 countries according to The Global Entrepreneurship Index, the most comprehensive tool for assessing entrepreneurship. GEDI offers guiding for policy makers to address weaknesses in order to strengthen the entrepreneurial ecosystem. Risk acceptance aside (as it is linked to the high unpredictability of the political agenda and the instability of the business environment and, more, due to the pandemic context), focus should be oriented towards networking, along opportunity perception, start-ups, competition and innovation product and process.

The Global Entrepreneurship Index is the most comprehensive tool for assessing entrepreneurship The Global Entrepreneurship Index focuses on 137 countries where it measures on a yearly basis the health of the entrepreneurship ecosystems while it also ranks their performance. GEDI relies on 14 pillars which assess entrepreneurial attitudes, abilities and aspirations of the local population in the context of social and economic conditions.

GEDI offers guiding for policy makers to address weaknesses in order to strengthen the entrepreneurial ecosystem. Risk acceptance aside, focus shall be oriented towards networking, opportunity perception and start up and competition and innovation product and process.

Pillar	Required Increase in Pillar	Percentage of total new effort
Opportunity Perception	0.13	12%
Startup Skills	0.04	4%
Risk Acceptance	0.18	17%
Networking	0.23	21%
Cultural Support	0.01	1%
Opportunity Startup	0.13	12%
Technology Absorption	0.00	0%
Human Capital	0.00	0%
Competition	0.13	12%
Product Innovation	0.12	11%
Process Innovation	0.12	11%
High Growth	0.00	0%
Internationalization	0.00	0%
Risk Capital	0.00	0%

Source: Global Entrepreneurship Development Index, Romania, 2020

According to GEDI, the networking pillar is a top priority and refers to: 1) a proxy of the ability of potential and active entrepreneurs to access and mobilize opportunities and resources and (2) the ease of access to reach each other and other relevant stakeholders, such as governmental organizations.

Recommendation 1: The development of the *Accelerate Romania* hub, as a facilitation platform for the integration and promotion of the Romanian entrepreneurial ecosystem, its start-ups and scale-ups, in accordance with the report P.S.F. (2017).

Recommendation 2: Creating a community of those who support the entrepreneurial ecosystem, bringing together successful entrepreneurs, representatives of public organizations that provide entrepreneurial support, representatives of large companies, business consultants and investors, in order to harmonize their efforts to support sustainability and innovation in the ecosystem and to inform policy makers.

Recommendation 3: Developing networking with professionals from international innovation ecosystems, especially where the Romanian diaspora is strong: Europe, USA and Israel.

2.4. Developing a Data Ecosystem, as a first premise

Entrepreneurs and innovators, public and private organizations who support the development of entrepreneurial and innovative activities, make and consume data. The dynamics of conducive ecosystems depends on the volume and flow of available information. With this in place, Romania may unlock her ecosystem's potential, encourage informed decisions and collaboration, by retrieving and collecting data and master their analysis.

Lack of data, collection, monitoring and assessments is a recurrent observation in the entrepreneurship studies with respect to Romania. For example, UNESCO country report on the Culture for Development reveal the gaps in the system of collection of cultural, educational and entrepreneurial statistic data (UNESCO, 2019). 'The Romanian Entrepreneurial Ecosystem. Background Report' (Radauer and Roman, 2016) notes that available data and publication on topics related to entrepreneurship is complicated and at times contradictory. Moreover, the report states that it is up to the priorities of each country to determine which sources are the most reliable. In 2015 we conducted our first exploratory analysis in to the Romanian Entrepreneurial Ecosystem. We concluded that there was insufficient public statistical data resulting from national or international entrepreneurship programmes conducted, and no impact analyses of these programmes and this situation has not changed in 2020. State-funding mechanisms do not embed data monitoring and impact. For example, there is no data for the monitoring and the impact of the Start Up Nation program which allocated 430 million Euros for 2018-2019.

This study highlights a larger gap than expected in the generation and availability of data coupled with scarce qualitative analyses on entrepreneurship, for informing evidence-based decisions. (Even if the public awareness and support for entrepreneurship throughout the country were to increased considerably.)

Currently, qualitative evaluations and impact studies of programmes that support entrepreneurship are lacking. Deficiencies in the data collection, difficulties in public access, lack of interoperational capacity, as well as the lack of analyses and studies derived from that data, limit the positive effects of open data.

Evaluation should not be the exclusive task of public institutions. Expertise existing at the level of public authorities should be complemented by that of private professionals and non-governmental organizations. Today, most of the entrepreneurship support programmes collect insufficient relevant information which are, however, difficult to be accessed.

Recommendation 4: It is recommended to implement a procedure for collecting, publishing and communicating quantitative and qualitative data at international standards for each public financial and non-financial mechanism related to entrepreneurship.

Recommendation 5: To introduce independent professionals and non-governmental organizations to participate in the design and implementation of the actual evaluation and monitoring process for national and European programs relevant to the entrepreneurial ecosystem and innovation.

In the near future we hope to have more quantitative data and more sophisticated information for further studies. In line with the recommendation received from the document 'Specific Support to Romania, Start-ups, Scale-ups and Entrepreneurship in Romania' (PSF, 2017) we recommend aggregated monitoring data and impact assessments to be made available publicly, to all ecosystem actors.

Recommendation 6: The development of evidence-based public policies to provide decision-makers with policy options to stimulate entrepreneurship.

Moreover, the academic community should be encouraged as well as other public and private stakeholders to formulate clearer and more tailored made recommendations that can be taken up by policy makers. According to one of our interviewees, the current recommendations of the academic research are too general, ambiguous and unoperationalized abstract concepts which do not contribute to informing public policies and designing concrete measures. Therefore, university research should formulate clearer and more tailored made recommendations that can be taken up by the policy making community (interviewee, policy making, 2020).

PART THREE. How to Strengthen the Sustainability of the Entrepreneurial Ecosystem

The entrepreneurs who have participating in the study are at different stages of developing their businesses. They have discussed the resources, needs and challenges they encountered in their efforts to stay in the business environment, while maintaining their values and having a positive impact on the social level. Some profiles of entrepreneurs, created as a result of these discussions are presented in the following.

3.1. Starting the entrepreneurial journey

In 2018, Lucian started a business in the field of recycling, in Bucharest. To start the business, he needed lots of information and resources to maintain and develop his professionalism and to maintain his own values. The resources of knowledge and skills needed to start a business with a positive impact on society are considerable. The effort to gather the information needed to meet standards are hampered by the dispersion of information and lack of direct access to standards and knowledge that should be facilitated primarily by institutions.

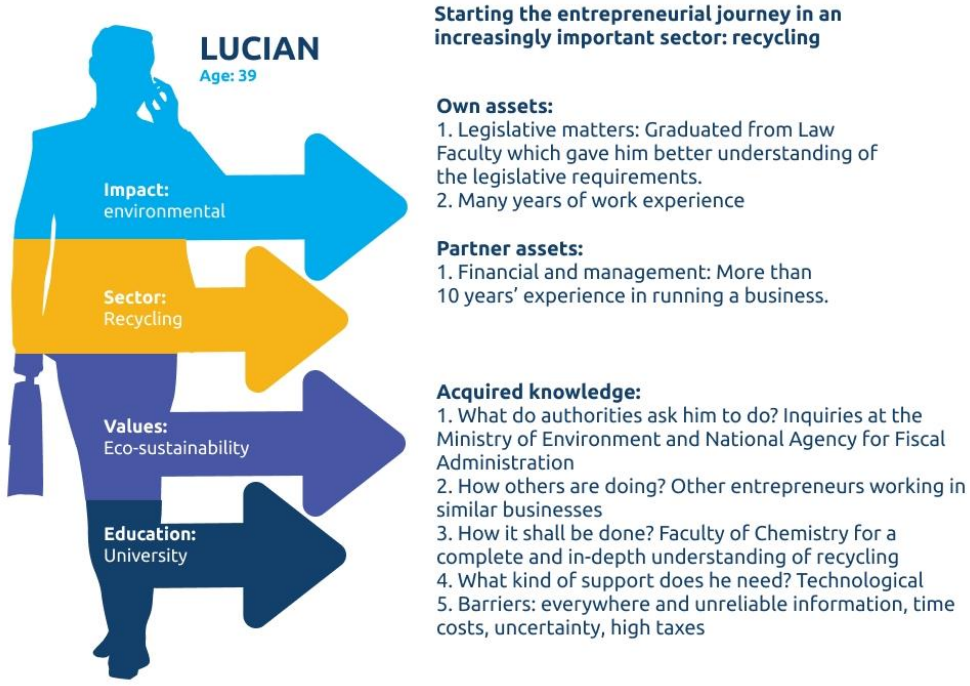


Figure 6 Starting the entrepreneurial journey

The growth of entrepreneurship programs which offered mentorship has led to an increase in the demand for business consulting. However, the consultancy was mainly used to deal with tax controls and less for business development. In Romania, tax audits aim to penalize the entrepreneur, unlike the European Union, where tax audits serve to inform and assist entrepreneurs (interviewee, business consulting, 2020).

In spite of the cardinal importance of providing ease of 'start up' to the entrepreneurship process, Romania has made the 'start up' process more difficult in the last few years (Small Business Act, 2019). More, the SBA, which is the framework for EU policy on small and medium sized enterprises, notes that the picture of the entrepreneurship in Romania stays mixed (2018, 2019). In 2019, according to Doing Business, Romania made starting a business more complicated by introducing fiscal risk assessment criteria for value added tax applications, by increasing the time it takes to register for Value Added Tax (Doing Business Romania, 2020). Improvements have been made though, compared to other countries, they are small and insufficient. Romania ranks 91 out of 190 economies and just below the regional average of Europe and Central Asia.

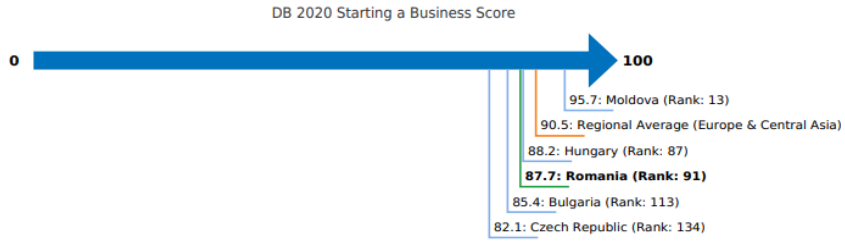
'Doing Business', measured the number of procedures, time, cost and paid-in minimum capital requirement for an enterprise to start up in each of the 190+ worldwide economies. The procedures score lowest and paid-in minimum capital almost registers maximum points.

Source: Doing Business Romania, 2020

When we compare the progresses made by other countries, we see that steps taken in Romania to ease business 'start up' are too small to create an attractive and friendly environment for entrepreneurship to flourish. They merely reflect an incremental process of change though not supported by political will. For example, according to Doing Business 2004, 124 economies required fixed paid-in minimum capital to start a business, while in 2019, about half of the governments gave up to the fixed paid-in minimum capital (Doing Business, 2020).

With respect to transitioning from manual to electronic filing and payment in Doing Business 2006, only 43 economies had an online system for filing and paying taxes. In 2019, this number has more than doubled (to 106) as economies shift from manual filing and in-person payment of taxes to filing tax returns electronically and paying taxes online.

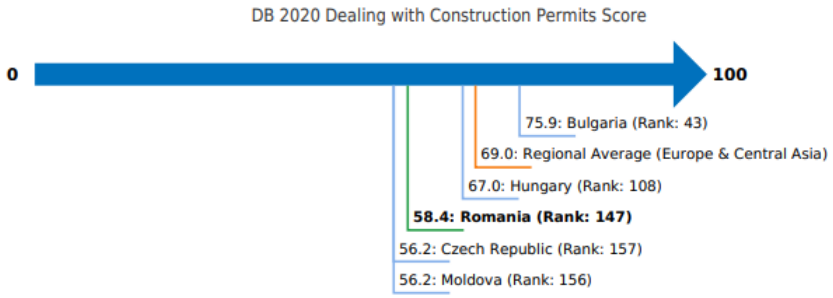
Figure - Starting a Business in Romania and comparator economies - Ranking and Score



Source: Doing Business Romania, 2020

The complex bureaucracy in Romania makes it more difficult for people coming from the vulnerable socio-economic categories to break through into Romania's ecosystem. The quantitatively increase of the number of SMEs does not lead to inclusive entrepreneurship.

Figure - Dealing with Construction Permits in Romania and comparator economies - Ranking and Score



Source: Doing Business Romania, 2020

Overall, from 2019 to 2020, the progress in points measured by Doing Business increased by 0.8. Small steps lose potential.

Recommendation 7: Create a 'one-stop-shop' digital service centre for entrepreneurs offering integrated e-Government services, in line with the recommendation received from the document 'Specific Support to Romania, Start-ups, Scale-ups and Entrepreneurship in Romania' (2017).

Recommendation 8: Each institution should post on its website 'information relevant to entrepreneurs': relevant guiding information, standards, case-studies, and opportunities for collaboration.

Recommendation 9: To create good models of common business practices which support the ecosystem through their values, i.e. circular economy and education, and that include references to relevant information, time, resources and finance. They should be published and made available to all entrepreneurs.

Recommendation 10: Financial controls should have an educative purpose and not a punishing character. That can be found in the decreasing number of penalties and the increasing number of warnings, and through equipping financial control teams with educative material and training, open data and ease of access to information.

Recommendation 11: Each public institution, starting with the National Agency for Fiscal Administration (NAFA), should set up offices through the country that offer professional advice to entrepreneurs.

3.2. Mentoring and scaling up a business

> "One can blame the gazelle for not having six legs when being chased by a flock of lions, though that would be unfair. Likewise, it is unfair blaming owners for not being equipped for confronting the state bureaucracy megalith" (interviewee, business consultancy, 2020).

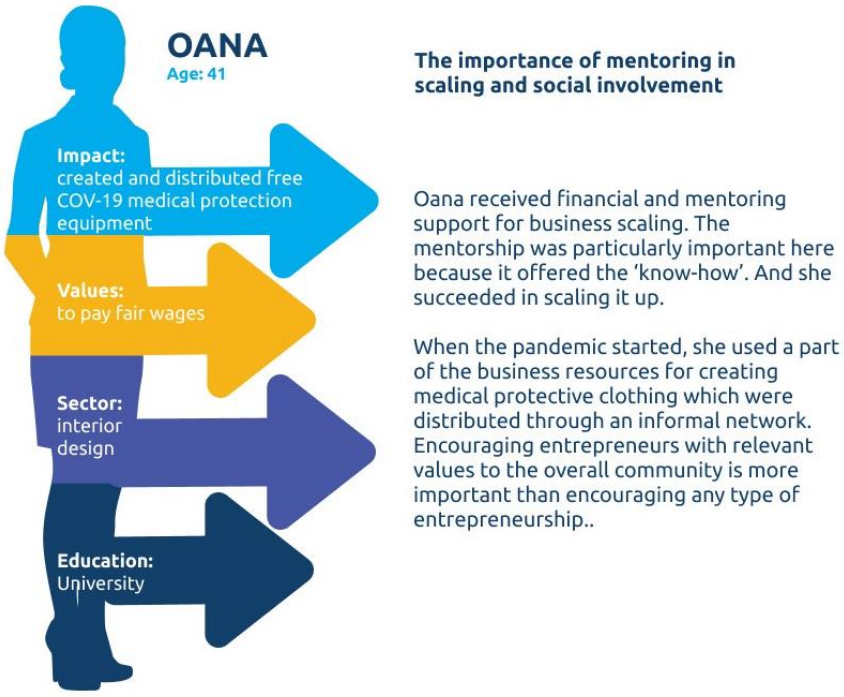


Figure 7 Mentoring and scaling up a business

Small businesses are the backbone of the entrepreneurial ecosystem. They are the first victims of the state bureaucratic institutions and their significant administrative burden has to be eased.

The study conducted by Ernst and Young (2019) shows that for 41% of the respondents, mentorship and discussions with other entrepreneurs represent the main source of learning.

According to our survey, there is a significant difference to the situation now compared to 2015, which is shown in contracting consultancy services. Professionals have been consulted by 21% of the participants in the study, while 45% talked to experts informally. Out of the 33% of those who did not use a consultancy, many of them expressed their intention to do so. A significant percent (43%) appreciate that mentorship or business consultation contributed significantly to the success of their business.

In comparison with the more developed nations, the reasons for which a consultant in business is needed in Romania differ. In Western countries, the entrepreneur needs an adviser for navigating complex legislation, while in Romania, the entrepreneur needs an adviser for learning how to apply the legislation. If in Western Europe both fiscal and non-fiscal controls serve to inform and assist entrepreneurs, having a rather educational purpose and thus enabling the healthy development of the country's entrepreneurial ecosystem. In Romania, the controls are made to penalize the entrepreneur and, as a result, bribery remains part of the Romanian entrepreneurial culture and practice (interviewee, business consultancy, 2020).

It is recommended that financial controls should have an educative purpose and not a punishing determent. That can be found in the decreasing number of penalties and increasing the number of warnings, and through equipping financial control teams with educative material and training, open data and ease of access to information.

According to most of the interviewees, the lack of management capacity is the key limiting factor for the inefficiency and weak value recorded across all domains. Weak performance in management in national government administration and local administration impact on the business sector while weak performance of management in business sector is also remarked.

Moreover, according to Maier (2018), the main causes that lead to the low results of the Romanian research and innovation system are related to the insufficient management experience, lack of "trial and error" strategies correlated with the lack of promptness in correcting mistakes and insufficient funds or poor management of available funds, along with lack of incentives to support R&D in the private sector and low absorption capacity of funds through framework programs.

Our study found that inadequate management due to lacking in business experience, is a barrier identified by innovators (Own Survey, 2020). Without qualified management back up, an entrepreneurial ecosystem cannot grow. "Trial and error" strategies and promptness in correcting mistakes are meta-skills which need to be addressed through the whole spectrum of education.

“We will understand more in-depth the matter of management in 10 years’ time, when it should then settle down. Because this is not an exact science.” (interviewee, university, 2020). According to our interviewees, Romania has only now come to realise the importance of the role of government in R&D, innovation and entrepreneurship.

Professionals in management and marketing and European (Union) funds absorption are needed (most interviewees’ emphasis, 2020). As there is a lack of these professionals, Romania should bring them from outside while also developing capacity building programs. A massive import of ‘know-how’ and of ‘how to do’ from European Union will bring the much-desired change.

Recommendation 12: To consult entrepreneurs and consider models of good practice at international level for establishing and implementing measures aimed at stimulating the survival of companies.

Recommendation 13: To offer support programmes to local governments in cities that want to develop sustainable and innovation-based local business ecosystems.

Recommendation 14: To ensure increased interoperability of relevant data at the level of governmental institutions, in order to simplify and increase the performance of entrepreneurial activities.

3.3. The importance of community building for entrepreneurs

The percentage of adults who intend to start a business within 3 years is the highest in the EU, exponentially growing from 6% in 2009 to 29% in 2016 (Small Business Act, 2019).

State financial support for increasing the number of entrepreneurs on the basis of a business plan has led to "copy-paste entrepreneurship". Due to the lack of data, the contribution of these entrepreneurial activities in adding value in and outside the entrepreneurial ecosystem is unknown. Moreover, the perception of entrepreneurs and experienced investors is that financial and non-financial support should be offered after testing the idea in the market and not solely on a business plan (interviewee, entrepreneur, 2020).

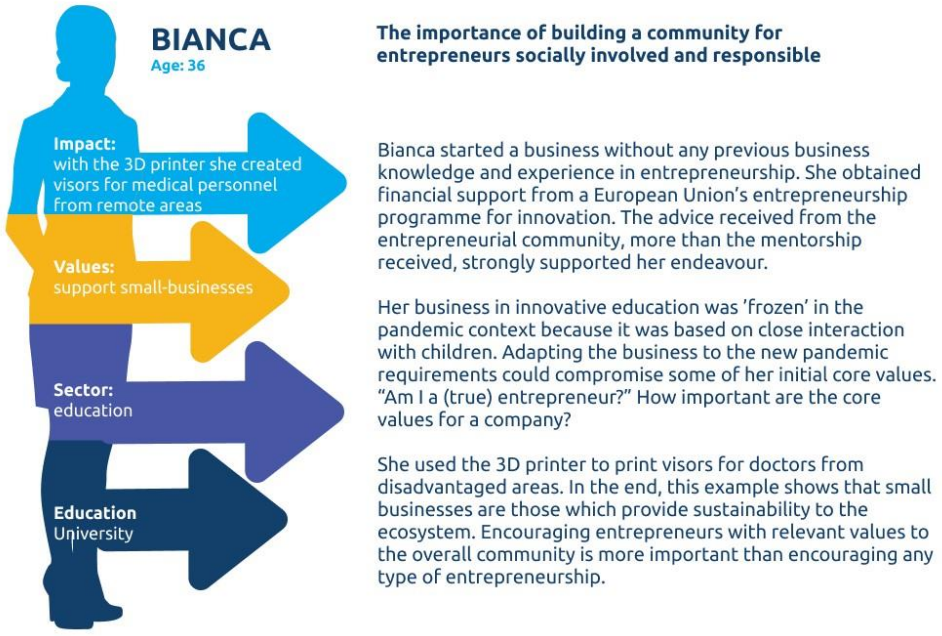


Figure 8 The entrepreneur socially involved and responsible

of companies in Romania are

The survival rate of SMEs is low and so is their productivity and job generation strategies. Too few reach maturity and the ecosystem is weak. The number of businesses which ceased functioning is the highest in the last 10 years. The number of insolvencies in relation to the number of start-up companies, has tripled.

SMEs survival rate in Romania is 52,7% is, as concluded by Startup Cafe in 2017, based on the numbers calculated for the period 1990 to 2017, by REGnet. The same study noted that the number of established SMEs and PFA in Romania was extremely low in 2016 (StartupCafe, 2017)

'Coface Romania Study – 2020' shows that if the number of insolvencies is low, business interruption reaches maximum. There is worldwide evidence that where there is continuous reorganization procedures in business there is a high rate of recovery and economic growth.

Data shows (Global Entrepreneurship Development Index, Romania, 2020) that when it comes to supporting the entrepreneurial ecosystem, institutional variables score lower than individual variables and that was also the case in 2015. Internet usage and Business strategy are to be addressed immediately by public authorities while support services for strengthening the potential of gazelles, export, informal investment and new tech should be provided.

Bureaucracy in Romania has been streamlined 'but' (and this is a big 'but'), 'the signature on the original' requirement stubbornly stays almost as a symbol of bureaucracy, and at the same time continuing the 'head in the sand' approach to modernisation and efficiency. "How can I explain to someone in the USA that we need the original documents to be signed and sent over, when there are no flights because of the COVID-19?" (interviewee, IP consultancy, 2020).

At a time when Romania acknowledges the fastest growing enterprise software companies ever known, an app is released which recognises people by the way they type and world banks and high-ranking universities are adopting the innovation, Romanian authorities are still asking for the

documents with the signature on the original. The use of digitally signed documents is the first step towards a more efficient and accountable public administration.

E-filing and e-payment of taxes lead to less corruption and economies with fewer tax payments have a lower perceived level of public sector corruption, according to evidence (Doing Business, 2020). High tax compliance costs are associated with larger informal sectors, more corruption, and less investment. Romania's expertise and excellence in IT should be oriented towards digitising and updating bureaucracy and thereby lessening the time and money spent on bureaucracy and increasing the time available for doing business in Romania. More specific topics (such as procurement) will be tackled in the following sections of the present report.

Recommendation 15: Public financial and non-financial support should be offered to businesses validated their idea on the market, through a proof of concept, and not just with a business plan. Entrepreneurship through innovation should be supported based on a minimum viable product (MVP).

Recommendation 16: Boost collaboration between all relevant actors of the entrepreneurial ecosystem through innovation, by creating an inclusive and non-hierarchical community, following the model developed by Brad Feld (2015, 2018). The community would harmonize the interests and collaborations between entrepreneurs and innovators, investors and patent holders, representatives of universities and government organizations, in order to create a sustainable ecosystem through innovation.

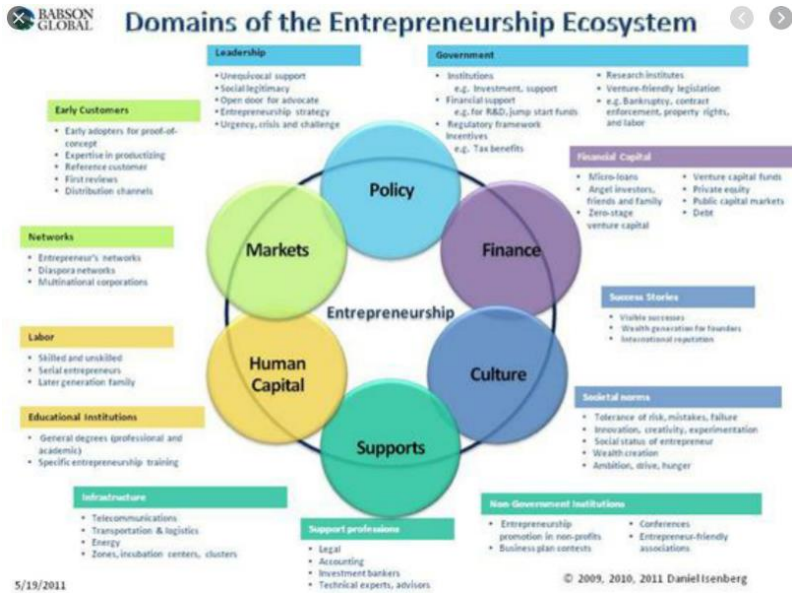
PART FOUR. The Entrepreneurship Ecosystem Framework

4.1. Entrepreneurship Ecosystem Framework

Holistic approaches to entrepreneurial environments and innovation are much used recently in entrepreneurship and innovation policy. An equal focus has been put on the development of appropriate metrics to determine and assess strengths and weaknesses and where and how to intervene (Audretsch and Belitski, 2017; Mason and Brown, 2014).

The ecosystem framework emphasizes that there is no one key factor of success for entrepreneurship or innovation. Instead, it focuses on the interplay between various factors, which facilitate entrepreneurship and innovation. According to the Babson framework (Isenberg, 2011), each country and each region have displayed a unique configuration of the following six pillars of entrepreneurship: policy, human capital, culture, support, finances and markets. Though, even if the ecosystem is portrayed as the network between the components, or successful collaboration between the six pillars, it is never a static organism. The relation between the pillars sets the gradients of equilibrium, sustainability and innovativeness of the ecosystem. Its dynamics depends on international and national factors as well as local cultural specificities.

Figure 9 Domains of the Entrepreneurship ecosystem



Source: Babson Entrepreneurial Ecosytem Programme, US, 2011, http://entrepreneurial-revolution.com/2011/05/08/introducing-the-entrepreneurship-ecosystem-four-defining-characteristics/

4.2. The Culture Pillar

4.2.1. High intentions for starting businesses

The entrepreneurial intentions of the Romanians are very high comparative to those of many other countries from European Union.

Gradually, more and more countries have begun to focus on entrepreneurship to develop their economies. Policy-makers and professionals, entrepreneurs and scholars believe that

entrepreneurship leads to economic growth. There is wide support for entrepreneurship in Romania too. Society at large encourages entrepreneurship, high percentages of Romanians desire to become entrepreneurs and entrepreneurs are enjoying a respected status, even in comparison to other European countries and to the European average too. There are years when Romania has ranked first in the European Union with respect to entrepreneurial ideals.

Regarding the intention to start a business, Romania, among the neighbouring countries or countries with better economic performance, register a score of 30%, comparative to Bulgaria 5%, or 20% for Latvia, Lithuania and Poland (Global Entrepreneurship Monitor, 2014).

More, studies conducted by the Global Entrepreneurship Monitor with focus on Romania show that there is a very high percentage of people consider themselves ready for business ownership. They are called intentional entrepreneurs and they rate within the population stays very high in comparison to other countries from the region: 32% in Romania, comparative to 22% in Croatia, 15% in Hungary, 22% in Lithuania or 19% in Poland ((Global Entrepreneurship Monitor, 2014). Romania also ranks first in the region with respect to the percent of young business entrepreneurs, early-stage entrepreneurs (TEA) and entrepreneurial employees.

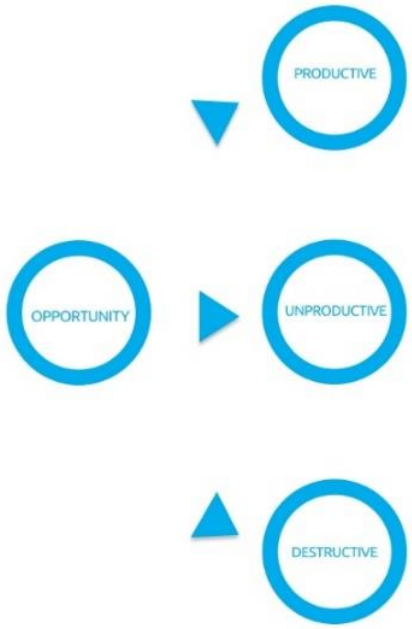
> "Youth want to start a business to make money or to be their own boss. Most of the youth who enrol in our educational programmes have the same story: they want to build a business, make money and at about 35 years old to start do what they love. It seems to me that I hear the same story over and over again. This mindset forces people to go into entrepreneurship and do things that they do not want to do. After this 'unnatural' experience, they hire and start cumulating more working experience and training" (interviewee, non-governmental sector leadership and entrepreneurial education).

Entrepreneurship in Romania continue to see an ascending trend. According to the study conducted by iVOX in 2019 (Raiffeisen Bank, 2019), 70% of the Romanians consider that entrepreneurship is the key to economic growth and half of the Romanian employees want to become entrepreneurs. One out of two Romanians from urban environment wants to become entrepreneurs.

However, there is great hunger for business enterprise in Romania. Global Entrepreneurship monitor (GEM, 2014) noted that in countries with a weaker entrepreneurial ecosystem, entrepreneurs feel capable to run a business, Latvia, Slovakia, Slovenia, Romania, the Czech Republic, Croatia, Greece, Portugal, and Spain.

4.2.2. From opportunity towards productive entrepreneurship

Figure 10 The three types of entrepreneurial activities according to Baumol (1996)



The distinction among the three types of entrepreneurial activities made by Baumol (1996) are now standard. The Productive, Unproductive and Destructive entrepreneurial activities are differentiated by the ways they are engaged in society. The productive entrepreneurs will engage in activities such as innovation. Entrepreneurs in the property for rent market do not contribute to the country's development of innovation. The activities of criminal entrepreneurs serve only to diminish the wealth and progress of a country's development.

Government policies should not be involved in appointing entrepreneurs and the allocation of productive activities. The supply of entrepreneurs, jobs and activities by the government does not resolve the problem of limited technological expertise and unsustainable growth. The government's role in entrepreneurship is to supply the resources and opportunity-oriented activities. Independent productive entrepreneurship results in a higher level of technical innovation and sustainable economic growth.

In compliance with the document 'Specific Support to Romania, Start-ups, Scale-ups and Entrepreneurship in Romania' (2017) we recommend the development of a web portal where relevant information for entrepreneurial activities to be posted and an e-newsletter be regularly published. A community of entrepreneurs, innovators, and professionals should be established while policy makers and other relevant policy decision makers should be encouraged to access the same relevant information.

4.2.3. What type of entrepreneur is an innovator?

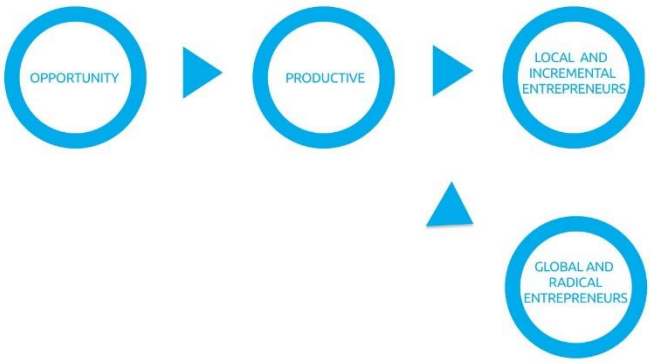


Figure 11 The impact of entrepreneurship out of opportunity

Østergaard and Marinova (2018) found that education turns out to be a crucial factor in becoming an innovator. Their study (2018) shows that there are two types of entrepreneurs with long-term education and limited or extensive work experience who may become global or radical entrepreneurs respectively. The first would impact community with a global radical innovation, while the second with a presumably affluent radical innovation due to the possibility of transferring knowledge, where the area of knowledge determines the sort of products.

Four distinct types of entrepreneurs are identified:

The local entrepreneur has school education and limited work experience. The influence of his innovations has a local impact on society with generalised incremental innovation.

The global entrepreneur has university education and possibly no work experience and tends to impact society with global radical innovations. He is also skilled at problem solving.

The incremental entrepreneur has non-graduate education and a wide work experience and tends to impact society with well-functioning incremental innovation or radical innovation, but the latter are usually more by accident than design.

The radical entrepreneur has university education and a wide work experience and tends to impact society with technical and/or radical innovation and understands the best market for his/her innovation/s.

4.2.4. The role of values in entrepreneurial behaviour

The starting point of Youth Bank, an educational program released 10 years ago, was to nurture entrepreneurs who ask themselves “How can I contribute to the community?” (interviewee, entrepreneurial education, 2020). In the last years, wild and unrealistic entrepreneurial expectations are instilled by media discourse on success which reorient people from training and education towards an ideal of making money. Because of the high rate of people motivated for earning more and / or to be more independent, the state should orient its efforts towards supporting entrepreneurs who bring value to society.

Interestingly, education and the number of years spent as an employee before becoming an entrepreneur are negatively correlated with income derived from the business (Own survey, 2020). This in in line with the findings from the survey on the entrepreneurial ecosystem of 2015 (Curaj et al, 2016). These findings emphasize that those who enter and survive in the current business environment are, to a large extend, people who are resilient in the local business culture.

Lesson learned: Instil values and encourage enterprises that are based on values and positively impact on the society and not just ‘any kind of entrepreneurship’.

Lesson learned. The business environment is hostile to people without experience and knowledge in business. The so far policy encouragement for people without experience and knowledge to enter entrepreneurship led to a waste of financial resources. According to research, necessity driven entrepreneurship, which refer to starting entrepreneurial activities because other opportunities are lacking, should be discouraged and replaced with adequate educational programmes (interviewees, entrepreneurship, 2020).

Research shows that an entrepreneur is working more than 9 hours a day. Interviewees also say that an entrepreneur is doing simultaneously many jobs. This makes it almost impossible to keep focus on the vision. Increasing the ease of doing business would much support entrepreneurs.

The literature which investigates types of entrepreneurship emphasizes that government policy and societal norms should encourage opportunity-based entrepreneurship which is conducive to a thriving economy, innovation, sustainability as it bears the effects of job creation and inclusiveness.

Therefore, for entrepreneurship to be of value to policy makers and stakeholders, it has to focus on quality productive entrepreneurship (Nicotra et al, 2018). This type of entrepreneurship supports sustainable productive growth and so developing countries should look for changes brought about through enabling the interplay between opportunity-driven entrepreneurship and innovation and creativity; this change translates into technological performance, efficiency and innovativeness (Kontolaimou and Giotopoulos, 2015; Herman and Szabo, 2014; Acs and Varga, 2005; Acs, 2006).

We need to firmly align our policy measure towards entrepreneurship based on opportunity identification, which can significantly contribute to technological change, innovation and economic development.

4.3. Policy Pillar

Policy matters from both perspectives of sustainability and innovation. First it needs to be considered on the axis of sustainability, as it is the stability and predictability which offers the ascendance of the framework for a conducive business environment.

The state shall continue to play a role for advancing the economic performance of a country. It is shown that the economic success is achieved not under the conditions of a minimal state but through a more flexible one, able to shape reality through political will.

We note that institutional variables score lower than individual variables and that was also the case in 2015. Internet usage and Business strategy are to be addressed immediately. We also note that the Institutional Variables score low on GERD and Technology Transfer. GERD is the Gross domestic expenditure on Research & Development (GERD) as a percentage of GDP, and Technology transfer refers to investment in research and development (R&D) by the private sector, the presence of high-quality public research organizations, the collaboration in research between universities and industry, and the protection of intellectual property.

INSTITUTIONAL VARIABLES		INDIVIDUAL VARIABLES	
Market Agglomeration	0.44	Opportunity Recognition	0.51
Tertiary Education	0.54	Skill Perception	0.57
Business Risk	0.44	Risk Perception	0.30
Internet Usage	0.37	Know Entrepreneurs	0.47
Corruption	0.51	Career Status	0.74
Economic Freedom	0.45	Opportunity Motivation	0.56
Tech Absorption	0.40	Technology Level	0.70
Staff Training	0.58	Educational Level	0.63
Market Dominance	0.43	Competitors	0.55
Technology Transfer	0.47	New Product	0.58
GERD	0.44	New Tech	0.79
Business Strategy	0.40	Gazelle	1.00
Globalization	0.61	Export	0.86
Depth of Capital Market	0.52	Informal Investment	0.89
Institutional	0.47	Individual	0.66

Source: Global Entrepreneurship Development Index, Romania, 2020

Political mandate towards a more innovative economy and digital society is poor (Andrez et al 2017). There is low interoperability at the level of national administration because the IT system is divided between public institutions and each has its own digital public service. Moreover, authorities need to be pressured to improve their use of digital technologies. The public IT sector does not offer similar wages as those from the IT private sector and the consequence is that those who take these jobs in the public sector are not as motivated in performing or innovating (Chioncel, 2019). There is much need of IT specialists in the public sector to implement and maintain digital services.

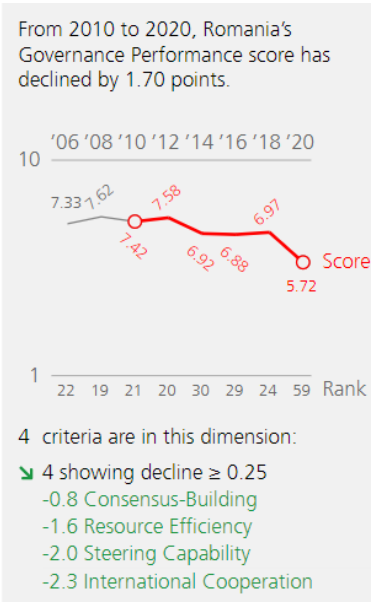
One of the top priorities is to ensure the interoperability at the level of national administration. For that, make use of the existent competence on the IT market to ease the workload of entrepreneurs by increasing the efficiency of the public

Research shows that economic development begins with the strengthening of the institutions and only afterwards entrepreneurial activity should be oriented towards innovation (Ács and Szerb, 2009). Similarly, good governance powers innovation, as it is argued by Pippidi (2015). Her article published in Nature in 2015 emphasises that corruption of the public institutions and insufficient meritocracy are factors which inhibit innovation. On the same par, Ilie and Serban, (2019) emphasize that country's performance in innovation will change if corruption will decrease and higher education institutions (HEIs) will start playing an active role as a stakeholder in the entrepreneurial ecosystem. Similarly, scholars raise voice against corruption and clientelism existent at the level of universities:

> It's amazing how many resources are quickly acquired by various interest groups to support sinecures and "compressed air factories" that claim to produce "innovation", "research" and other concepts whose meaning I do not think they understand in the context of the world and the real economy. (Own survey, 2020)

To improve governance, Romania also took a closing the gap approach through quantitatively increasing partnerships between the state and non-governmental organizations and businesses. Romania, however, does not possess a solid bureaucracy similar with that in western developed states, which carried its role in advancing the administrative affairs of the state. Good governance in Romania is still a desiderate and to a large extend, partnerships and consensus figures increase without quality improvement (interviewee, non-governmental sector, 2020).

Source: Bertelsmann Transformation Index, 2020



It is not just worring that Romania is scoring low on governance today, but much more worriesome is that good-governance in Romania is on a descending trend for the last decade, as is the case of innovation.

According to the Transformation Index BTI, we note that Romania scores low in the Governance Index and much improvement for

Steering Capability and Resource Efficiency are expected. For example, Estonia scores 7,46 point and South Korea 6,65, and no country with a bad governance score have successful entrepreneurial ecosystems.

We may compare corruption in Romania, Estonia and South Korea, as Estonia is referred to as the Baltic Tiger and went through a rapid economic growth, similar to the case of South Korea, one of the four Asian growing fast economies. Hence, we note that Romania is ranked at 70 and 17% of public service users paid a bribe in the previous 12 months. South Korea is ranked at 39 and 2% of public service users paid a bribe in the previous 12 months. Estonia ranks 18, and 5% of public service users paid a bribe in the previous 12 months.

Procurement corruption is a frequent practice in Romania and has a cumulative negative effect on society, according to the National Agency for Public Procurement, which discusses how to reduce corruption risks in public procurement (Pușcaș, 2017; SBA, 2019; Romania Corruption Report, 2017). Public procurement should allow more than one company a fair chance of winning the tender. On the one hand, this will diminish clientelism and favouritism and, on the other hand, it will strengthen small businesses. Collaboration and networking might be a spill over effect. In line with the recommendation received from the document 'Specific Support to Romania, Start-ups, Scale-ups and Entrepreneurship in Romania' (2017) we re-iterate that 'The National Authority for Public Procurement should undertake 'a sandbox approach' to experiment with precommercial procurement and procurement of innovation engaging start-ups and scale-ups'.

Red tape discourages the participation of enterprises in public procurements by asking entrepreneurs to provide various documents which are time consuming for the applicants. Actually, the state requires enterprises to present papers for registering for the tender, which are issued by the state itself. That takes much time and energy. The measures which are meant to contribute to discouraging enterprises and encouraging clientelism should be reversed.

The state needs to benefit from the advantages of high competence in IT. The webpages and downloads of most of the public institutions are insufficiently developed and poorly designed. The latest information required by entrepreneurs is scattered and most of the public institutions keep displaying information which is not of relevance anymore.

The city of Cluj attests that the exercise of good governance (which is still on its way) may well result in economic growth and development. Cluj is an ecosystem on its own. Smaller than Bucharest, it is much easier for small businesses to sprout, and entrepreneurs much support each other. The streets are full of people celebrating or protesting. Having more NGOs per capita than Bucharest, in Cluj, there is dialogue between public administration and citizens and even an interactive participatory budgeting process has been implemented (interviewees in entrepreneurship and university good governance, 2020). And all started about 15 years ago.

> "Cluj has been always a center of civic movements. There are many civic initiatives, we did not like anything. We did not like the pots we made scandal, benches, scandal, trees, scandal, but scandal in a good sense. Protests, appeals. Not only that we made noise, but we took initiatives. Many initiatives appeared and public administration had to raise the standard. Public administration standard had been raised by the state. Those who really wanted to do something and not just to request something, they really did. It was an interplay: I do, you support, and much creativity and collaboration (interviewee, non-governmental sector, 2020).

Lesson learned. Civil society may take the lead towards change in public administration.

4.4. Finance and Markets Pillars

Finance and support capture the availability of finance for innovation projects and the support of governments for entrepreneurship and innovation activities.

The Romanian microfinance sector, although quite well-developed in general, is constrained by the lack of lending funds, complicated procedures and a lack of access for the target groups of inclusive entrepreneurship. Financing and assistance are becoming more readily available for inhabitants of the rural area, in itself a disadvantaged group in the market (OECD, 2018).

Anton and Onofrei (2016) note that innovative SMEs or companies with a high rate of growth were not prioritized in the public strategies for funding and supporting entrepreneurship, and venture capital was extremely reduced. Further, the authors recommended the diversifying of the range of the financial sources available to SMEs: venture capital, crowdfunding, microfinance, and asset-based finance) and their promotion. If in 2011 venture capital represented less than 0.1% of GDP, today the ranking of EU Member States by VC funding activity 2015-2017 shows that Romania is in 24th position, followed by Cyprus, Croatia and Bulgaria, according to the Annual Report on European SMEs 2017/2018 The 10th anniversary of the Small Business Act.

Several mainstream programmes and direct funding opportunities aiming to support the existing SMEs and business creation, are described in the country report on inclusive entrepreneurship from 2018 (OECD, 2018). The current analysis highlights that barriers to accessing capital represent a weakness of the whole ecosystem. Even if there are various types of finance possibilities like banks, micro-finance institutions, VC/Angel Investors/Private Equity, crowdfunding and European funds, the efficiency and competitiveness of finance market are missing. For example, debt capital is expensive, once the value of collateral requirements is high (186.8% of loan amount) and 80% of loans require collaterals. Also, Romania needs to address its severe BA/VC/PE investments gap, as these are significant capital sources for business development, growth and expansion.

Limited access to finance remains one of the major constraints to the growth and the development of entrepreneurship in the European Union and, in particular, in Romania, especially in early stages of business. However, research shows that there is no unequivocal correlation between financing businesses and their survival, and the experience of Romania amply confirms this finding. In contrary, financing start-up and innovative businesses will affect the job creation indirectly due to the high promise of growth and their positive spill-over effects on the economy.

SMEs internationalization should be promoted as a top priority of Romania. Limited consumerism and lack of market sophistication hamper the development of businesses in Romania.

The buyer sophistication indicator shows that Romania marks 3.07 on a scale from 1 to 7, below the global median value (World Bank, 2019).

In 2018 and 2019, SBA repeatedly stressed the importance of the focus on skills & innovation and single market. They recommend laying the foundations for progress on 'internationalisation' and 'access to finance', and further, on promoting exports, encouraging private investments and alternative sources of financing, and boosting ICT skills. The most recent challenges relate to the prompt transposition of European Union legislation and to support for SMEs to help them trade more online and develop and upgrade their ICT skills. In parallel, more suitable regulations are also needed.

It is recommended to differentiate between diverse types of start-ups and to identify, for financial support and tax incentives, the more knowledgeable -intensive start-ups and those relevant for eco-innovation and for a sustainable growth. Businesses with an eco-component or who contribute to reducing the environmental impact shall be supported for a more mature, responsible and sustainable entrepreneurial ecosystem.

It is recommended to give Romanian companies accepted in international acceleration programmes a grant of EUR 15 000 to subsidise their travel and subsistence expenses, in line with the recommendations received from the document 'Specific Support to Romania, Start-ups, Scale-ups and Entrepreneurship in Romania' (2017).

4.5. Support Pillar

Inclusive entrepreneurship

Inclusive entrepreneurship referred to stimulating any social and economic group to create businesses. Inclusive entrepreneurship is promoted in the European Union strategy because of its capacity to lead to social inclusion, job creation, innovation and research and development.

From 2014 to 2020, Romania assumed a generic strategy for strengthening entrepreneurship through policy measures focused on improving the access to finance, responsive administration and entrepreneurship (The Romanian Governmental Strategy for Development of SMEs and Business Environment (RGSDSMEBE) 2020 (OECD, 2018). The strategy addresses inclusiveness, job creation in rural areas, entrepreneurship education and support programmes aiming largely at the vulnerable or disadvantaged social groups. In short, Romania addresses the burden of its long legacy of sharp disparities between rural and urban through supporting entrepreneurship in the disadvantaged areas under the condition of jobs creation.

In the Romanian entrepreneurial ecosystem, the conditions of creating and maintaining new jobs are difficult to meet under the current labour market conditions and under the auspices that performing technology might even reduce the number of jobs in the first instance.

Entrepreneurship programs such as Start-up, Diaspora Start-up and the national Start-up Plus are not convincing for professionals and entrepreneurs. However, there is no indication of any success, not even of the fact that people from disadvantaged areas were having a chance to enter entrepreneurship. The excessive bureaucracy and complex skills can hardly be mastered by people from disadvantaged groups.

Our interviewees emphasized that the beneficiaries of state social assistance are about 80% people with an education of maximum 8 classes while about 30% have very few years of schooling. The belief that these vulnerable people can become entrepreneurs is, at most, a naïve opinion. Solid social policies should be addressed with a special emphasis on education, instead of supporting entrepreneurial endeavours without evidence of them being fruitful. Moreover, the entrepreneurial activities which rise from disadvantage communities, besides having a small surviving rate, may weaken the communities further. They are destructive to the community due to their unsustainability and commerce-oriented nature (interviewee, social policy, 2020).

In 2019, Romania counted over 1, 38 million entrepreneurs, which is the highest number in comparison with the previous decades. The fact that 37, 5% of them were women shows that Romania was also performing well along some inclusive indicators. (SBA, 2019) Dedicated programmes are

available for youth entrepreneurs, young graduates, the unemployed, and women. There is, however, a policy gap with regard to senior citizens. Incoming migrants are not

explicitly targeted by start-up financing programmes either, in part due to the relatively small scale of migration in the country. Beneficiaries of asylum and/or refugee status are entitled to the same provisions as Romanian citizens under the Unemployment Insurance Act (Ghinararu, 2016).

Special programs have been designed to stimulate women entrepreneurs, and recommendations for stimulating Roma and refugees' entrepreneurship have been received. Positive discrimination went for constructing entrepreneurship programs special designed for socially economically disadvantages, vulnerable categories. Research shows that support measures (Dodescu and Cohut, 2018) are needed. Rather than designing special entrepreneurship programs for vulnerable categories, public funding mechanisms should continue to address generally all categories and support measures should complement each specific public funding mechanism, in order to encourage, maintain and advice vulnerable categories.

This approach of tailored programmes weakens the entrepreneurship ecosystem by scattering the efforts into many programs and increasing the competitiveness inside the vulnerable groups. This goes against encouraging collaboration and increases the entry number of vulnerable people to compete against each other, thus weakening their efforts.

Therefore, it may be better to focus on support measures for creating and maintaining the businesses that empower the vulnerable to continue in the ecosystem for a longer period, with minimum losses. Moreover, this would increase their financial and entrepreneurial education which would help them more.

Romania performs well when meeting the indicators for inclusive entrepreneurship but it needs to strengthen its performance. The measures recommended target strengthening entrepreneurship: develop action plans for entrepreneurship support for key target groups and improve the ease of doing business in general.

4.6. Human Capital Pillar

Human capital is the basis of sustainable development. The importance of human capital for the entrepreneurial ecosystem is the acknowledgement of people being the core source of economic growth.

To enhance human capital means promoting strategies for development and innovation. Human capital is understood in terms of educational courses and labour training which are optimized and based on the contextual environment. Scholars who have taken up the topic of human capital in entrepreneurship (Rauch and Rijsdijk, 2013; Wiklund et al., 2009; Shepherd and Wiklund, 2006) argue that developing and investing in knowledge and information have long-term positive effects on business environment.

Human capital condition in Romania might be summarized in a half-phrase: 'it has one of the highest international migration rates worldwide'. Migration from Romania started in the 1990s and became a massive phenomenon around 2002. The unskilled and low skilled were the first to migrate, then followed by the skilled and highly educated. (Romania's 'brain drain'.)

Migration led to significant losses for the Romanian entrepreneurial ecosystem and innovation. The Romanian Entrepreneurial Ecosystem. Background Report (Radauer and Roman, 2016) shows that real

challenges continue to be posed by steady emigration rate including outgoing highly-skilled workers and the increasing ageing population.

Therefore, Romania is badly affected both by the brain-drain and brain-waste phenomenon, which refers to professionals who accept lower positions for better life standards and salaries (Andrén and Roman, 2016), and hoping to gain access to professional opportunities as a strategy for long term migration. This continues to hinder the sustainability of efforts in innovation and economic development at large.

If 30 years ago Romania had a reasonable well-educated labour force, particularly in niche specialized technical fields, human capital resource deteriorated significantly through external constant migration. The great assets of quality maths and science education are fading fast. More, data shows that Romania has the lowest percentage of tertiary education graduates in the European Union, with 26.3% for the age segment of 30 – 34 years (Eurostat, 2018). A solution has not as yet been found to stop the migration of Romania's highly skilled and educated manpower.

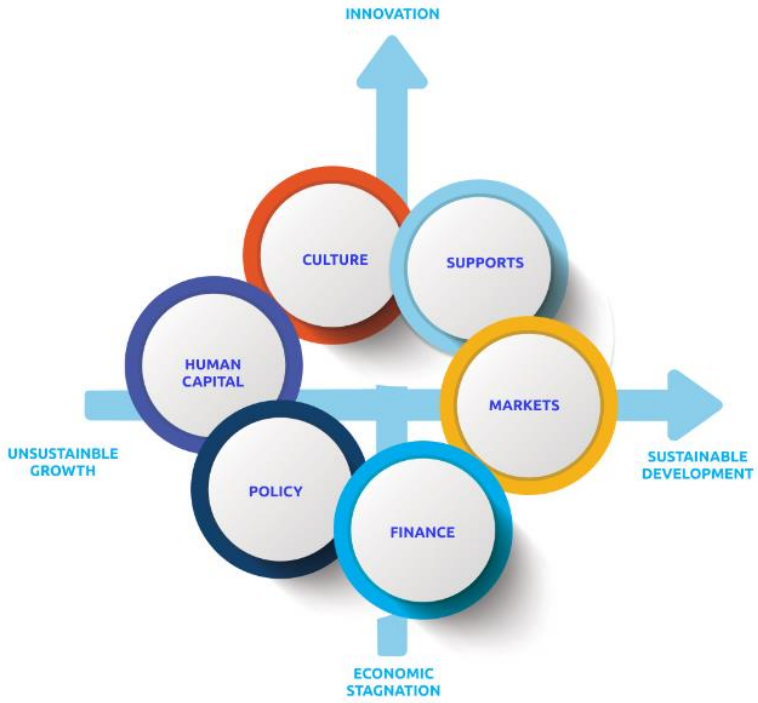
Romania ranks 84 out of 122 countries with respect to education, except for quality of maths and science education where is ranks 51/122. This `insular` performance should continue to be valued. We face a deficit on the labour market in various fields (Balan & Olteanu, 2017; Iacob, 2018) The severe under-utilisation of human capital is also specific to RDI system, according to 2015 Rio Report (Gheorghiu et al, 2016). (Strengths according to https://www.globalinnovationindex.org/analysis-economy)

Conclusively, human resources capture the availability of high-skilled and educated people, while its performance is captured in R&D. Romania bears a historical heritage of poor investment in its human resource, which is one of key enablers of innovation; migration is symptomatic in showing the country's incapacity to retain and value talent.

4.7. Partial conclusion: IES the current perspective

Summing up, the strategies for the development of the current entrepreneurial ecosystem should be harmonized and oriented towards sustainability and innovation. The below figure represents a visualization of the 6 pillars of the ecosystem, following the assessment of each. If the entrepreneurial culture should be oriented towards market opportunities and should discourage entrepreneurship out from necessity, the measures related to Support and Human Capital should consider the sustainability of the ecosystem. The support instruments for the entrepreneurship ecosystem which derive from Policy, Finance and Markets should encourage innovation.

Figure 12 The Innovative Entrepreneurial Ecosystem in the current perspective



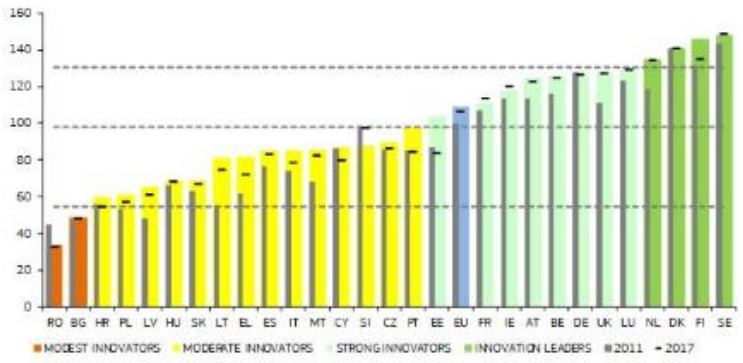
PART FIVE The Innovative Entrepreneurial Ecosystem

This chapter discusses the innovative entrepreneurial ecosystem. It begins by showing that according to the last international rankings, the performance in innovation of the country constantly decreases. The second part delves into the intriguing issue of why the innovation performance is so low, based on the available data, our survey and the insights of the interviewees which come from universities, innovative entrepreneurship and IP consultancy.

Many of the identified barriers to innovation are common to the Eastern and Central European space. However, the fact that, generally, there is no vision on how the patentable idea should enter the market is the most important barrier. If the governmental funding programmes continue to support research without prioritizing and encouraging, nurturing and growing the research which is of benefit to the society at large, the country's ecosystem of innovation would continue to weaken.

5.1. Preamble to the study of innovation in Romania

Innovation is of great importance, because it is regarded as the driver of economy and creativity. Human talent and R&D are crucial factors for enhancing innovation. Public expenditure on education and the intensive staff training correlate best with innovation performance.



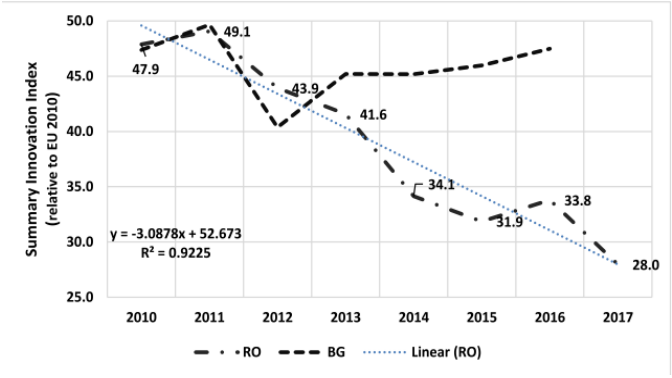
Source: European Innovation Scoreboard, 2019

Today, Romania ranks last in European Union in its performance with regard to innovation and the financial support for innovation which has decreased during the last decade. During 2018, OSIM registered a decrease in applications for protection titles, being submitted with 286 fewer applications than in 2017. Scholars emphasize the warnings which the poor ecosystem of innovation exhibit. They warn against enlarging the gap between Romania and other countries, if no persuasive measures will be taken, such as: investments in R&D infrastructure and policy to improve the outcomes in the educational systems, support for intrapreneurship and collaboration between companies and institutions (Badulescu and Cadar, 2016, Cadar and Badulescu 2017, Cioc and Ursacescu 2017).

According to the European Innovation Scoreboard, Romania and Bulgaria are the low/poor innovators of European Union. It is not the bad news about the poor performance of innovation in Romania which should raise awareness but the fact that the situation continues to worsen. In the context of high global competitiveness and of the neighbouring countries overcoming at fast peace their disadvantages, such as The Czech Republic and Estonia, Romania is becoming more unattractive for

foreign investors; migration continues at a constant rate, and Romania continues its way on a downward path.

There is a much clearer overview when compared to the situation between Bulgaria and Romania where the dynamics of the innovation performance in the period 2010-2016 are shown the clear descendent trend of Romania (Crișan et al, 2018).



Source: Crișan et al, 2018

Increasing Romania's competitiveness through innovation is difficult to achieve in the context of the continuous exodus of skilled labor. Romania ranks last in innovation in the U.E. and the country's performance in innovation continues to decline (e.g. EU Innovation Scoreboard, 2020).

Romania's innovative entrepreneurial ecosystem is insufficiently attractive compared to other countries that offer adequate support with significant tax exemptions. The Romanian market is still poorly sophisticated for innovative products and services. The buyer sophistication indicator shows that Romania marks 3.07 on a sclae from 1 to 7, below the global median value (World Bank, 2019).

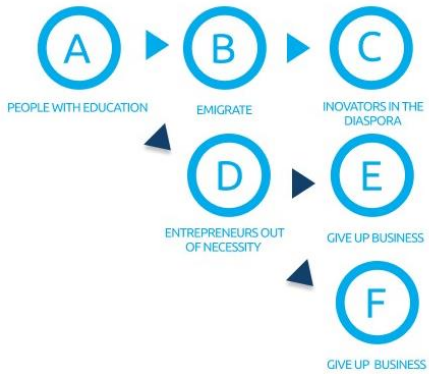


Figure 13 Brain drain and the low attractiveness of the business ecosystem

The lack of the national market's sophistication, the weak public procurement of innovation, along with other factors, determine the internationalization or export of innovative businesses in Romania.

Recommendation 17: Representatives of Uipath, Emag, TypingDNA, FintechOS, TeleportHQ, Questo, Elrond, CyberSwarm, SmartDreamers, NiftyLearning, TalentBrowse, XVision are mediatized as successful stories. Consult them on how to stimulate other innovators and how to meet the very top problems of the public administration to better serve the needs of entrepreneurs.

5.2. Romanians who innovate in Romania

We found that the number of patents awarded to individuals is higher than those awarded to businesses. The assertion - 'there is no compelling reason to innovate' is the most frequent answer both for the case of Romania and neighbouring and Baltic countries, when explaining poor innovation performance. This may be, because of the IPR regulations from 2014, as mentioned below, as the legislation discourages enterprises and individuals to innovate. However, the State should consult the enterprises and find the adequate ways to support individuals to innovate within enterprises.

Generally, the age of the individual applicants in Romania is over 50. That dramatically emphasizes the brain drain phenomenon and the unfriendly environment for innovation: Romanian youth innovates outside Romania. In the year 2015, Romanians were the authors or co-authors of over 200 patents registered by enterprises from USA, according to international data base (Bechir, 2016).

Romanian researchers and innovators claim that there is generally an increased level of suspicion and mistrust which affects collaboration and lead to trusting more the intellectual property rights system of other countries more than that of their own (Own survey, 2020). It is recommended that measures be put in place to recognize the contribution of innovators whose impact is stronger than current practices that discourage collaboration and innovation.

An expert in intellectual property rights stressed that there is often the case of many individuals in Romania, for whom the costs of registering their innovation, in any form, is a barrier to innovation. Therefore, similar to the situation of stimulating entrepreneurship where global measures for eliminating or diminishing at minimum the costs of starting a business have been taken, recommendations for a country which needs to stimulate massively innovation goes for eliminating these costs for individuals.

However, the participants emphasized the insufficient knowledge of the experts as a limiting factor in the innovation process. They declared that the IP expertise leaves much to be desired when it comes to recognizing the innovation, and usually wrongly frames the invention in some situations that the inventor does not have the possibility to realize and is forced to abandon the struggle (Own survey, 2020).

5.3. Private enterprises who innovate in Romania

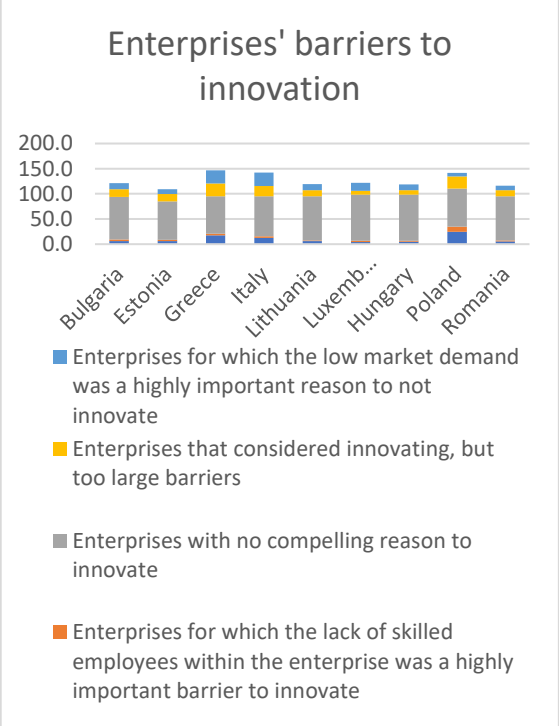
The assertion - 'there is no compelling reason to innovate' is the most frequent answer both for the case of Romania and neighbouring and Baltic countries, when explaining poor innovation performance.

According to the data from Eurostat, the most frequent reason for enterprises not to innovate is that there is no compelling reason to do so. 21,697 enterprises from Romania gave this reason. The second most frequent reason not to innovate, though to a lesser degree is that barriers to innovation are seen as very high. The situation of barriers for innovation in Romania is similar to some extent to the situation of many other countries in the region, and even to Estonia (Eurostat, 2016; Varblane et al, 2010).

The Law 83/2014 is favourable for individuals who invent within universities and public research organizations, but not for those from independent enterprises. Each enterprise, according to the internal regulations, would compensate the inventor, though, most often the retribution is not incentivizing.

LAW 83/ 2014 *Art 6. For the service inventions provided in art. 3 para. (1) lit. b) which have been claimed by the employer, the employee inventor has the right to a remuneration established by the employer, under the conditions provided in art. 7.*

LAW 83/ 2014 *Article 15 The employer develops and promotes policies and programs in order to increase the capacity for innovation for greater competitiveness and job creation.*



Source: Eurostat (2016)

Participants in the survey stressed that there is no public support of innovation at the level of enterprises and also brought attention that the limited competence of OSIM barely encourages innovation and collaboration: "Innovativeness from the private sector is not incorporated into the national legislation and it is not supported in obtaining a patent by OSIM" (Own survey, 2020)

"The Romanian Government's established Institutions and Departments of research that are responsible for assisting and evaluating the research and innovations of the private sector are in fact incapable of meeting the needs of the private sector in the fields of research and innovation. Furthermore, they are ill equipped to understand the economic realities and practical demands the private innovator and entrepreneur is confronted with both in the short and long term. Thus, in Romania, there is little or no support, insufficient information resources and practices required by innovators. These must be obtained from outside the country, usually at a higher cost than I would like or sometimes I could afford" (Own survey, 2020).

According to our own survey the governmental institutions are insufficiently meeting the needs of the private sector.

"There is a gap as big as the Marianas Trench between the private sector and the public sector. Some companies invested in research and found they had wasted money and on balance it would have been better if they bought technology / patents, and import licenses. The Start - up Nation did not give a penny for research in the private

sector, or cover the cost of expertise of the accredited laboratories which are required to verify the invention and enable the invention to be recognized by OSIM (Own survey, 2020).

5.4. The barriers to innovation, collaboration and commercialization

There is no data showing that those from academia economically exploit the result of their work, following a trajectory from the university into the market (Curaj et al, 2016). Though, researchers in universities and public organizations consider that there is insufficient support in exploiting research results in order to bring their innovations into the market and that there is an environment hostile to the development of trust and collaboration (Own survey, 2020).

According to the interviewees, research from universities is lacking relevance for the actual societal context and market. That is the first explanation for low performance in research and innovation and for the very few patents which reach market (Interviews, 2020).

The study which focuses on the 'Analysis of the factors that obstruct the diffusion of innovation, including digitization' (Chioncel, 2019) discusses in detail the barriers existent in the innovative ecosystem, which are presented in the bellow figure.

Figure 14 Barriers to innovation according to the 'Analysis of the factors that obstruct…' (Chioncel, 2019)

The interviewees also emphasized that the university curriculum is not correlated with the current needs of the market (interviews, 2020). Research or patentable ideas often have the same problem of lack of relevance to market needs (interviewees, IP consulting, university researchers, 2020; and own survey, 2020). Close contact with the business ecosystem, networking and collaboration should be set prior to any undertaking of a research project. Strategic basic research significantly increases the chances of bringing an idea to market. There is a large consensus of opinion that many patentable ideas are not relevant for today challenges and that is the prime reason why they do not reach markets (interviewees, IP consultancy, university researchers, 2020; own survey, 2020).

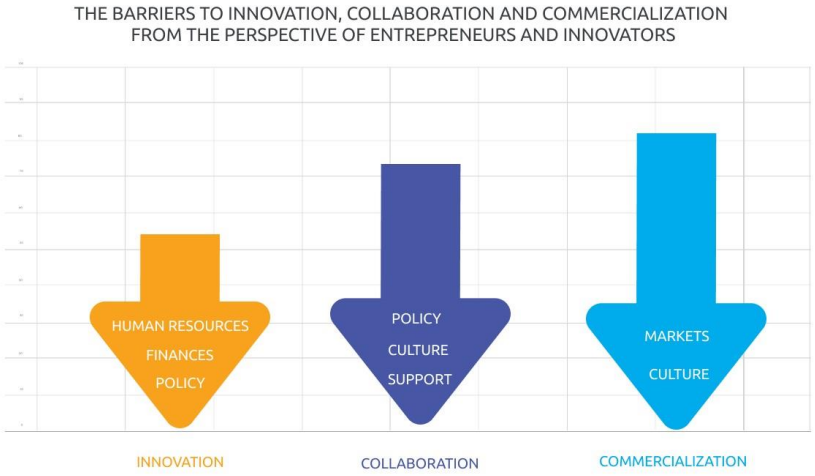


Figure 15 The barriers to innovation, collaboration and commercialization from the perspective of entrepreneurs and innovators, according to our own survey, 2020

The main limiting factors in the innovation process perceived by entrepreneurs, researchers and innovators participating in the survey are: brain drain, support policies and poor funding. We meet the same limiting factors to collaborations, along the cultural factors, such as lack of trust.

Many of the barriers identified to innovation are common to the Eastern European area. The lack of vision on the exploitation and commercialization of market research results is the most important barrier.

The process of commercialization of innovation is also limited by cultural factors, such as lack of trust in Romanian products, but also by the insufficiently sophisticated national market, which also hinders the commercialization of innovation (Own survey, 2020).

5.4.1. The barriers in the innovation process

According to the participants in the survey, the highest number of innovation difficulties (28%) relate to Human Resources. Finances (23%) and Policy (21%) are closely following Human Resources concern. Support (16%) is also a matter of concern for some of the participants, while Culture and Markets came last, only a few participants named these as difficulties (Own survey, 2020).

The lack of human resources and the lack of professional ability of the professionals, including those among the administrative personnel, represent, the strongest insufficiency; they all had a negative effect on the innovation processes. Some of the participants mentioned that their personnel were professionally trained within the company. Financing simply refers to high costs and some of the participants mentioned the difficulties in accessing loans.

Many participants stress that the general lack of expertise is a key problem in the innovation process. The shortcomings of an inefficient system are encountered by one participant, whilst another participant encounters policy guidelines which do not address the country's specific culture.

> "Limited access to information research, results in difficulties in creating viable applied research partnerships and experimental demonstration, implementation due to lack of infrastructure in research and testing and professional training units" (Own survey, 2020)

> "The legislation and financing guidelines [are] not adapted to the needs of the industry in our country and region" (Own survey, 2020).

Cultural factors are shown to play a heavy role in the innovation performance of a country. Lack of or poor collaboration frameworks and social practices, of openness, reluctance to new ideas, mistrust, no long-term vision, poor communication are all culprits of the failed innovation system in Romania listed by the participant in survey (Own survey, 2020).

5.4.2. The barriers to collaboration

The collaboration with companies in different places is presented in the chart below. The highest numbers represent percentages out of companies that collaborate with other companies in their own cities or region; those collaborating with companies in other European Union countries are a close second. The Collaboration index was formed by adding separate dimensions of collaboration – The index minimum value is "0" and maximum value is "6"; mean is 4.02, std. dev. 1.53.

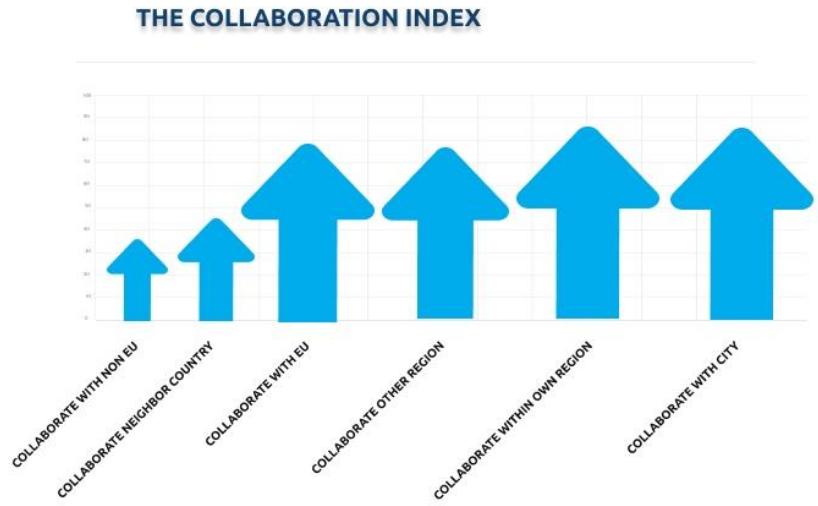


Figure 16 The Collaboration Index Own Survey, 2020

It shows that once you collaborate, you will then have a tendency to collaborate further. A spill over effect can be hypothesised/speculated.

There are no significant correlations between the collaboration index and the innovator's education and/or income.

There are three main barriers to collaboration, mentioned by the participants: Policy (38%) ranks first, followed by Culture (31%) and, to a lesser extent, Support (13%).

A few participants mention that there are no barriers in collaboration, while some others mention 'time' and 'data access' as barriers. Participants see a close relation between the lack of funding and non-inclusive public financing projects, which erode collaboration and maintain unprofessionalism and technology lapses. It continues to be uncertain if these perceptions lead to lack of trust, no long-term vision, poor expertise, corruption and such, which, in turn, may lead to poor collaboration.

Lack of or poor public financing is the most often cited reason for affecting collaboration.

Weak policies and poor performance of the public institutions discourage collaboration. Lack of public financing coupled with the incompetence existing at the university level and R&D institutions are emphasized by most of the participants. Corruption and nepotism also make innovation difficult.

There is no incentive for collaboration because of: 1) Lack of or much inconsistency in public financing of the projects, and the poor monitoring and evaluation of projects and 2) Overloaded bureaucracy. There are no funds, no competitions are organized, resulting in a reluctance to collaborate.

One of the participants who operates in the space technology sector explained that the State's incompetence affected his work as Romania has not paid its contribution to the European Space Agency for over 3 years and, therefore, the source of financing via ESA projects has been stopped. This leads to discouraging innovation and widening the already large technology gaps.

Diverse cultural aspects are emphasized by the participants, such as: reluctance towards collaboration, lack of interdisciplinary collaboration (which arises from other research findings as well and it is one of our key findings in designing public strategies and policies), lack of vision, lack of flexibility.

Reluctance towards collaboration is one of the key factors, which contributes to the weakness of the whole innovation process in Romania.

6.4. The barriers in commercialization

Culture and Markets equally score the highest, as the most relevant delaying factors for commercialization. Policy and Finances, on equal footing, come second.

Culture and Markets equally score the highest, as the most relevant delaying factors for commercialization.

High costs, lacking capital and limited investment are hindering the commercialization process, according to many researchers from the public sector.

One third of the barriers identified to commercialization are cultural and are due to the reluctance to accept the new and to accommodate change. The lack of trust in general and the lack of trust in Romanian products and the preference for imported brands.

Marketing is another difficult challenge for innovators / entrepreneurs in Romania. The existent of poor marketing is a major cause for high costs, distribution channels and alike. Competitiveness is yet another major problem that has to be tackled. The issues regarding competitiveness are not specific to the Romanian national ecosystem. Participants mentioned that because poorer quality products are preferred and international companies are seeking to dominate the Romanian market. It is therefore almost impossible for the home-grown innovator / entrepreneur to succeed in the market place.

5.5. Developing an intellectual property strategy

OSIM is the State Office for Inventions and Trademarks, a key institution for innovation in Romania. There is a sharp contrast between how the applicants at OSIM and those from IP consultancy perceives OSIM. IP consultants insist that the education of the researchers at large is critical for promoting a better understanding of the importance of:

1) having the vision, to apply for a patent and bring the innovation to market;

2) having the knowledge of what it implies to turn an idea into patent;

3) asking for professional support on how to obtain, maintain and exploit a patentable idea (interviewee, IP consultancy, 2020).

Before applying for a patent, the applicants should l be informed on the procedures and costs, have a vision of how to bring the idea into market the knowledge of what it implies to turn an idea into patent to ask for professional support for how to obtain, maintain and exploit a patentable idea.

Apparently, OSIM is just one click away for disabling the option 'sending documents in original form, as well', not allowing exclusive filling of the application online. Nevertheless, currently, the applicant is discouraged from e-filling as there is also the need to send the documents in paper format.

Many researchers, (mainly from universities and public research organizations) (Own survey, 2020) complain about OSIM's procedures and costs. "Be aware of the amount of time taken by OSIM, as time is the biggest enemy of innovation and new technologies." (Own survey, 2020). The IP costs and the high bureaucracy and poor management of OSIM (State Office for Inventions and Trademarks) are recurrent themes which appear as barriers to innovation and commercialization. From the various descriptions of the survey participants, OSIM seems to be a heavily bureaucratic organisation, very slow in responding to the market resulting in high administrative costs which the innovators cannot afford. More, there is a black market of ideas and innovations, and, in the absence of good administration for intellectual protection, the innovator refrains and become reluctant to be involved with the OSIM.

However, OSIM's procedures and costs are due to the nature of patent process, according to some IP consultants (interviewees, IP consultancy, 2020). OSIM is bureaucratic, but it is not much more bureaucratic than its homologues from other European Union countries, according to IP consultants interviewed. Though, some of the innovators from Romania perceive the institution as being quite bureaucratic and that hampers the innovation process (Own survey, 2020), though, some IP consultants emphasized that the institutional arrangements are in line with the European Union.

When a patent application is filed, an OSIM consultant assists and completes the process. There is thus a certain degree of dependence on the competences of an individual, on her/his own preparation and law interpretation, although, out of 70 OSIM consultants, many are knowledgeable and trained to European Union standards. However, OSIM should increase their number if that will speed up the processes.

IP consultants insist that the education of researchers in general needs to be developed in order to have a more accurate understanding of the process of transferring research results to the market. This involves requesting and providing professional support on how to publish their research results and, to obtain, maintain and exploit an internationally patentable idea (interviewees, IP consulting).

In conclusion, it is recommended to pursue a clear understanding of what the innovation process is and the costs associated with it, before research projects and patent applications are made. IP consultants warn that many situations of unproper protection and poor exploitation of the patent may occur when individuals do the process just by themselves.

> "Patentable ideas entail complex procedures. Obtaining a patent is burdensome: it takes a long time and the costs are high. It depends on the type of request, but it might take between 2 and 5 years. The most rapid office is in UK. Though, one can file an application in Romania and then she/he can immediately file a European patent or even go elsewhere, where the procedures are easier" (interviewee, IP Consultancy, 2020).

It is recommended also to facilitate access to patent documents and literature as a source for technological information. And, it is recommended to raise awareness and trainings on how to bring a patent idea into market, as well as networking for exploiting the idea shall be considered with highly attested professionals in IP Consultancy.

> "For patents, one cannot get protection everywhere. Patents are generally territorial, to protect the idea within each state and that is why the procedure is difficult and very expensive. One can obtain a European patent from the European Patent Office, which will be valid in about 40 States, but it is not enough. Even if it is granted, a separate procedure for each state should be applied to as well. On average, a patent is protected in 7 States, but in pharmaceuticals or telecommunications it is so in no less than 60 States. Maintenance fees or renewal fees are paid afterwards to maintain a granted patent in force in each state. In principle, the right holder does not have to wait for something, she/he has to pass it on or defend it" (Interviewee, IP Consultancy, 2020).

Another related deficiency of the system is mentioned by one of our survey participants "Lack of national programs dedicated exclusively to accredited independent laboratories. Only when there is a lack of national possibilities to issue certified bulletins, do the authorities take into account the problem even then makes little attempt to resolve the problem, with any concrete supportive measures" (Own survey, 2020). Therefore, decision factors should take into account all the diversity of institutions involved in the innovation processes.

Though, even if frequent comments of the participants (Own survey, 2020) are related to intellectual property rights procedures led by OSIM, there are also other hindering factors such as bureaucracy, corruption, fastidious legislation, lack of policies for innovation and lack of R&D support and the frequent changing of regulations. IP consultants' perspective is crucial to facilitate the understanding of processes and procedures for a patentable idea.

The consultants often remarked that people who apply for a patent are not motivated and have no vision for exploiting the patent which is actually the very reason for obtaining it. Most probably there is the same mindset with people from social sciences who try to get published without any motivation for contributing to society.

Though, there is a market for consultancy in IP in Romania but low demand for consultancy on patents. The consultants focus to a larger extent on trademarks and copyrights, although they could meet the demand of on an increasing number of assisting requests to obtain patents (interviewee, IP consultant,2020).

5.6. On the relation between education, innovation and entrepreneurship

For the case of Romania, we looked at how innovation is related to education. Importance of innovation was measured on a scale from 1 to 7, where 1 means minimum importance and 7 maximum importance. When looking only at those considering innovation important (those that answered 5,6,7), it becomes apparent that the majority of entrepreneurs consider innovation important. Almost 60% of respondents consider the financial benefits of innovation important, while 74.6% consider the

nonfinancial benefits of innovation important. Moreover, almost 90% of entrepreneurs consider that innovation has important benefits for the future of their companies. An index was constructed by adding the three dimensions presented above: the mean value is 16.23 with a standard deviation of 4.1 (min value 3, max value 21). This results clearly shows that most entrepreneurs value innovation in any/all of its dimensions.

Figure 17 Why is innovation important?

Correlations suggest a direct positive relationship between income derived from the business and support for innovation: the larger the income, the stronger the commitment to innovate. This finding can be interpreted along the lines of innovation being possible and considered profitable only above a certain level of wealth.

Education is only correlated with appreciation of financial benefits of innovation, and the direction of the correlation is negative: higher education is associated with less appreciation of the financial benefits of innovation, while not being correlated at all with the other two dimensions of innovation.

David (2015) shows that Romania has potential which is comparable to other countries', though it is not supported and nurtured. Culture delays its real potential manifestation. For example, it is argued that we perform poorly in agreeability and openness, which are traits which support innovation. Therefore, a change in mentality needs to be supported, though educational institutions might not be the right avenues for bringing change at a faster peace.

> "A decade ago, it was thought that entrepreneurship was a 'natural' thing, like having the gene of being entrepreneur. Today, it is realised there is the need for learning entrepreneurial skills in order to become entrepreneurs" (interviewee, support programs, 2020).

If Romania aims towards a healthy, sustainable and innovative entrepreneurial ecosystem, that requires entrepreneurship educational programmes which focus on a minimum financial education and a strong emphasis on the meta-competences' development. Though, if the ease of the business environment will not increase through access of information and digitalized systems it is unlikely that people with education and experience to start businesses. Instead of instilling the dream of making money, innovation and values should be promoted.

The universities and school focus on learning in the classroom, evaluation through written assessment, knowledge-based examination, analysing and recalling the information itself are drastically opposed

to the entrepreneurs learning needs: gut-feel decision making with limited information, learning by doing, understanding the values of those who transmit information, recognizing the widely varied goals of different stakeholders and other as such (Gibb, 1993).

Mircea Miclea a Romanian professor and psychologist, recommend four meta-competences in the ever-changing world we live in now: discipline, an entrepreneurial mentality, autonomy and designer-type thinking. An entrepreneur is not someone who solves problems, but someone who discovers possibilities.

> "[…] we should militate for a change in the school system, which forms and commends problem solvers […] Reality and workplaces do not present us with problems, at the beginning of each day. […] entrepreneurs discover unformulated problems; which others cannot see or even imagine. People with an entrepreneurial mentality stand to gain because, in an unpredictable future, they will be able to capitalize on opportunities, change things, create jobs and shape reality, instead of waiting around for someone else to shape it and give them a place to work" (Miclea, 2019).

Innovation empowers an entrepreneurial ecosystem. To put it simply, it is innovation today which puts a country on the map.

Recommendation 18: Applied research projects must prove their real impact and contribution to society. The unique value proposition of projects must be clearly mentioned in terms of relevance, novelty and interdisciplinarity.

Recommendation 19: Build mechanisms to encourage, on the one hand, academia's contribution to the professionalization of public debates and the exploitation in economics of the knowledge and professional experience of those in academia, including those in the fields of social sciences and humanities.

Recommendation 20: The creation and stimulation of networks for the exploitation of ideas and their applicability in industry and economics will be considered together with certified professionals in IP consulting, innovators and experienced entrepreneurs and professionals in management and marketing.

Recommendation 21: Prior consultation of accredited independent laboratories, which have a key role in innovation, to identify appropriate support methods necessary for their optimal functioning.

Recommendation 22: The patent application to OSIM should be made exclusively electronically. At present, digital documents must be accompanied by physical ones, which discourages the completion of electronic application.

Recommendation 23: A line of support for innovation should be IP Consultancy for economically priority areas and for social innovation.

Recommendation 24: The qualitative monitoring and evaluation (and not only administrative) of governmental funded projects from the impact perspective, including results exploitation in the market.

Recommendation 25: Adopt and cultivate a proactive approach from the research environment in relation to policy makers and the business environment.

Recommendation 26: Mapping talents in the diaspora, inviting and encouraging Romanian innovators from abroad to participate in supporting the Romanian innovation ecosystem, in accordance with the

recommendations received from the document 'Specific Support to Romania, Start-ups, Scale-ups and Entrepreneurship in Romania' (2017).

Recommendation 27: Even if an invention does not qualify as a radical novelty and a patent is not issued, entrepreneurship programmes should be followed for inspecting other ways for exploiting into the market that relative innovation or novelty.

Recommendation 28: Consultancy from OSIM should be complemented by renowned consultants in IPR through a state support mechanism.

Recommendation 29: A specific programme which support innovation should be the IP Consultancy for economic prioritized domains and for social innovation.

Recommendation 30: The research projects supported should prove real impact and contribution to the Romanian society. The unique value proposition of the projects has to be clearly stated in terms of contributions and much attention and support shall be offered to research communication: the research results have to be communicated in a clear and understandable way to the public.

Recommendation 31: A more pro-active approach in promoting innovation at the level of policy makers and business environment and supporting change in universities and public research organizations should be taken.

5.7. Partial conclusion: The Innovative Ecosystem Spectrum

The below chart presents the Innovative Ecosystem Spectrum, according to the survey research results. It is observed that more sustainability is needed in the mechanisms which support innovation and human capital should be valued as the key resource for the whole ecosystem. A culture of innovation should be nurtured and adequate financial mechanisms which support innovation from lab to market should be developed.

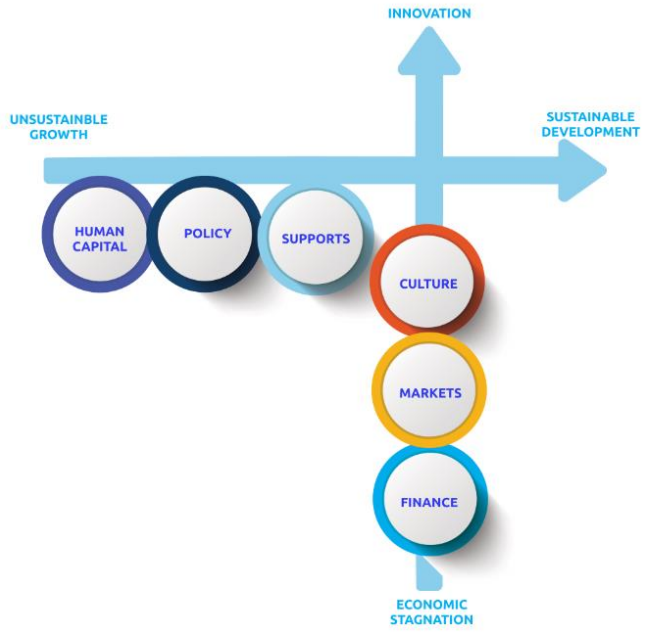


Figure 18 The Innovative Entrepreneurial Ecosystem based on the Own Survey, 2020

PART SIX. Future research directions and policy implications: 'The other entrepreneurs'

Romania, has created an environment that encourages technological innovation and the digitalization of society. In doing so it has attracted a wide range of entrepreneurs including public and policy entrepreneurs.

We provide a short overview of other 'other entrepreneurs' definitions and their domains. We invite 'entrepreneurial scholars' to follow up on the opportunities suggested.

6.1. The social entrepreneur

The poorer areas of Romania are in great need of development. It is thought that social enterprises can meet the challenge of developing these areas

Paina (2018) notes a positive evolution with respect to social ecosystem development in comparison to 2014: advancements have been made at the level of general public awareness, policy frameworks and access to finances. But there is much more to be done. European Union funds are used to establish social enterprises but they do not consider the subsequent stages of development and sustainability (Paina, 2018). Civil society took a major role in the development of the social entrepreneurship ecosystem, such as the Civil Society Development Foundation (CSDF), NESsT Romania Foundation, Ashoka Romania, and produce the Social Economy Atlas (Barna, 2014). Literature RSEE Etchart, Iancu, Rosandić, Mocanu, & Paclea, 2014; Damaschin-Țecu & Etchart, 2016; Ashoka Romania, 2018).

Vaida et al 2015 notes that non-profit social enterprises cannot be considered ideal because they do not operate under the same rules as the market economy. Disenchantment can be noticed when scarce examples of social entrepreneurship success can be found across Romania. For example, one of our informers considered social entrepreneurship as a way to fund social projects but the data showed that similar funds can be obtained through donations (informers, social policy).

Mestesukar is the most widely shared example of social entrepreneurship in Romania. Given the large social problems faced by Roma in Romania and the scarce opportunities, the case of Mestesukar shows that it takes much determination and hard work, networking, and resources to be successful in a hostile and unsustainable environment. However, it should be noted that one success story does not make the difference that is needed.

The literature (Vaida et al, 2015) notes that non-profit organizations do not have an economic activity in the true meaning of the word, as in to give them flexibility and the possibility to develop and respond to social needs which are constantly changing), without receiving donations. Moreover, the general ecosystem should create the proper environment for inclusiveness and fair working conditions, and that it should not be the purpose of just some of the enterprises. Creating social progress but no profit would easily become unsustainable, as a company needs to adapt to the environment. Therefore, a social enterprise will generate social progress only by innovation and the redistributing of profits for business development.

Strengthen civil society through focus on social innovation which answers to the most stringent problems of the country: Health, education, community development, working conditions.

Lesson learned: Technology might tremendously enhance the quality of the services provided, monitor and service increased number of beneficiaries.

Changes in technology should focus on health, education, community development and working conditions. Starting with supporting technologies and digitization and the training of professionals in the new technologies.

6.2. Public entrepreneur

While social entrepreneurs act independent of governments, public entrepreneurs are involved with governments. Public entrepreneurs are those who gradually change or reinvent their organizations, and, in so doing, they increase government efficiency. Bernier and Hafsi (2007) show that the individual dominates when the organization is new, but in most of the cases the individual public entrepreneur evolves in to an entrepreneurial team and its actions are systemic.

Public entrepreneurs manifest critical thinking, leadership and creativity, but these are not necessarily reflected in the training programmes offered in the public administration sector in Romania as the analyses carried out by Gheorghe shows (2016). The high degrees of politicisation, constraints on managerial behaviour and lack of incentives hamper change and innovation in the public sector. The incompetence of many employed in public administration also hinders the entrepreneurial approach (Gheorghe, 2016).

Transparency at government and local level is essential if a country is to benefit from an entrepreneurial ecosystem. Therefore, as a start to complete public transparency we recommend budget transparency of the 10 most developed cities of Romania. This change to open government administration will promote the credibility of local government and will benefit businesses and society at large.

According to one of our informers, we can no longer believe in hoping for or imposing change with a top-down approach. Therefore, to instil change at the political level, Romania needs to start with bringing change into local government. A starting point could be to recruit counsellors to bring change in no more than 10 cities across Romania. The counsellors will combine vocation, minimum professional standards and competence to make the necessary changes to the administration of local councils. These councillors from the 10 cities may become the selection base for a larger political class. It has been recommended to design non-financial programs to support councillors for local public administration and to advance their proposed policies in accordance with local administration and communities' needs (Interviewees, 2020).

The Institutional Entrepreneur is defined as the self-interest person who can obtain economic benefits through institutional innovations. The institutional entrepreneur exploits opportunities by bringing changes and implementing these changes. We believe this to be a profitable direction to embark upon.

Recommendation 32: A special financial award should be created for the nurture and support of Institutional Entrepreneurs.

6.3. The cultural entrepreneur

The creative sectors contributed 7% to the Romanian GDP in 2016, while the goal set for 2020 is to reach a 10% contribution, according to the data provided by the Romanian Ministry of Economy (Istudor, 2018). Therefore, starting a business in the cultural sectors should be encouraged, along with programming and IT which occupies a large percentage of the creative industries in Romania.

The culture of entrepreneurship has changed much in recent years. One may track notable changes in advertising, media and public relations, and the service industries as well as the many business

models. There has been a strong emphasize on the digital revolution that has taken place which has improved human resources, team performance and service to clients beyond recognition. Symptomatic of these changes, are the online platforms which replace the events in the Covid-19 context (Informer, creativity entrepreneurship).

Innovation in entrepreneurial creative domains comes from many sources. It may result from an innovator, who finds it easier to work with a company that welcomes innovation more so now than in the past. However, should the company fail to be supported it will look for other sources of financing. Innovation may also occur in entrepreneurship, which look to diversify or to extend its model. Multinationals, which also rely on local entrepreneurs, affiliated or not, but sharing the same entrepreneurial spirit, are another source for innovation. However, there are many diverse sources for innovation today in creative industries (interviewee, creativity entrepreneurship, 2020).

With respect to the cultural sector, the results are scarce. On the one hand, AFCN is the only institution which funds cultural projects. Individual investment in culture is only significant in the large cities that offer a diversified amount of cultural consumption opportunities. The innovator who works in the cultural sector is forced to develop an 'entrepreneurial' attitude, and address his/her innovation skills to the needs of the market for innovation and which will provide him/her with financial security. In contrast to innovation stemming from inspiration which as every entrepreneur knows is an unrealistic way to live but personally far more rewarding. (interviewee, cultural sector, 2020).

Recommendations 33: Find adequate ways to support creative industries by initiating public consultations and an open dialogue with various sectors to identify specific needs.

Recommendations 34: Local administration should take on board creative industries to design communication and information, transparency and accountability and monitoring and regular reports should be made available to the general public.

6.4. The urban entrepreneur

The growth of cities, the urgency of the challenges posed by climate change, the new trends in innovation and collaboration, all open up new opportunities for urban entrepreneurs. They mostly address the pressures on infrastructure, quality of life, and social equity. Few cases of urban entrepreneurs exist across Romania. One is Adrian Dohotaru who supports public campaigns for modernising urban infrastructure and thus reducing every source of pollution and making urban life more beneficial for its occupants.

Recommendations 35: Romania should support and assist its city entrepreneurs by providing ease of access to local information programmes. A networking culture that is readily available as and when required by all entrepreneurs. Grants for R&D for specific city needs.

6.5. The policy entrepreneur

There are three types of policy entrepreneurs:

1) Public administration policy entrepreneurs.
2) Private sector policy entrepreneurs.
3) Third sector policy entrepreneurs (Cohen, 2016).

According to Cohen (2012) the main characteristics of policy entrepreneurship are: a) policy entrepreneurs try to influence public policy to support their benefit, b) entrepreneurs always have a lack of resources and c) they always have an opportunity to influence the result of the policy. Romania

has its own policy entrepreneurs, such as Mirela Oprea Specialising in childcare support and Vlad Voiculescu in health care policy.

There are few ways of changing the legislation. In the case of a legislative policy proposal, recommendations should be sufficiently precise to transform into legislative projective, according to our interviewee in policy making. In this way, working groups should be established, which comprise of jurists, people who want to contribute with ideas, politicians, environmentalists and others, based on the nature of the proposed project.

Another way for advancing and promoting coherent public policies, is to conceptualise a public campaign that involve more PR people, journalists and others, based on the proposed policy. It depends on how one thinks the impact of the recommendations. The third way might be to consider a small event, focused on 2-3 ideas, and Parliament. Based on how precise the recommendations are, they can be transformed in legislative projects. But it is lot of work (interviewee, public policy, 2020). It is also possible to have a collaboration with a specific commission, Such as Commission on Environmental Policy or the Commission on Work, or a partnership with mayoralties or other as such and to clearly see an exchange of ideas (interviewee, public policy, 2020).

Too often policies are not based on the best available research evidence. That is because academia, and especially university researchers give very general recommendations, and that when they do, their work cannot be used for drafting legislative measures by policy makers or any other cultural, policy, urban entrepreneurs. Research funded from public money should be applied and specific in order to serve public interest.

Lesson learned: To orientate social sciences research funded from public money for the following 5 years towards policy action at governmental or local level.

Recommendation 36: To fund research which is able to transform recommendations into submitted legislative projects proposals. Choose 5 priority areas of political action and base the working groups on collaboration.

Recommendation 37: To set a new line of funding which offers support for networking among policy entrepreneurs.

Conclusions

Forming a community of those actively involved and supporting the development of the entrepreneurial ecosystem and innovation is of primary importance to create an innovative entrepreneurial ecosystem. As a community they are better able to coordinate efforts, the potency of experience and knowledge, and to inform and persuade decision-makers of the measures needed for entrepreneurs, innovators and those who contribute to the development of this ecosystem.

The consolidation of an innovation-friendly business ecosystem in Romania will depend in the coming years mainly on being able to attract innovators from research public institutions and universities to the entrepreneurial ecosystem and on developing support mechanisms to ensure that innovation is primarily assimilated by the state or reaches the international market. To do this, three requirements must be pursued together at a pragmatic level:

1) Facilitating the conditions for the development of entrepreneurship in general.
2) Coordination and strengthening of innovation support mechanisms.
3) Focus innovation support on developing qualitative networking and bringing research results to the market.

Studies (Curaj et al., 2016; Nicolau and Forris's 2018) show that entrepreneurs with higher education have a greater impact on the growth of the ecosystem that subsequently leads to social elevation. By properly supporting people with higher education and experience, the prerequisites for an innovative entrepreneurial ecosystem will be strengthened. In general, those with higher education are less motivated by financial aspects and more likely to make a positive social contribution (interviewee, innovation, 2020), in particular appreciating the contribution of innovation to society (own survey, 2020).

1) Attracting people with higher education to the ecosystem requires facilitating the conditions for developing entrepreneurship. This involves 3 interconnected items: 1) simplified and direct access to information on the initiation, maintenance and development of a business, 2) increased interoperability and digitalisation at the level of state institutions, and 3) developing opportunities by increasing the capacity of the state to assimilate innovation and technology transfer and internationalization of entrepreneurship.

In a world where many countries use public procurement to stimulate innovation and development (i.e. Estonia or Israel), Romania continues not to have specific instruments, such as pre-competitive procurement, to contribute to the acceleration of the innovative entrepreneurship. Entrepreneurship will change Romania's face when public procurement is used for development and innovation, in parallel monitored by civil society and other independant actors. Otherwise, Romania will continue to decline in international rankings on corruption, good governance and innovation, while the general trust of citizens will continue to decrease.

2) In order to coordinate and leverage support mechanisms in entrepreneurship and innovation, a data ecosystem needs to be strengthened. This will provide useful information to participants and will be based on records. The lack of qualitative and impact assessments of entrepreneurship support programs hampers coordinated action, coherence and overall confidence in the ecosystem.

Government funding programs to support entrepreneurs need to be geared toward innovation and sustainability and focus on developed regions. Currently, support is targeted at underdeveloped regions where there is weak capacity for innovation, low business sophistication and low survival rates. Instead, focusing programs where there is a capacity to build sustainable business activities will lead to a positive impact on society at large.

3) The development of quality networking between researchers and entrepreneurs is of the highest relevance to the current business ecosystem. This also requires the connection of the business actors with Romanian innovators in the diaspora and the strengthening of international collaboration.

It is recommended to investigate in depth the factors limiting entrepreneurship in universities and research centers. Focusing research on needs is imperative. It is necessary to foster the openness of research to market needs (interviews, research and entrepreneurship, 2020) and to encourage innovative business projects based on a minimum viable product and not just a business plan.

It is recommended that entrepreneurship education should focus in the future on the development of entrepreneurial meta-skills, such as collaboration and creativity, rather than on accumulating a theoretical vocabulary about what business leadership means.

Sources

This chapter discusses the employed methodology and it presents a short analysis of the sources. An unprecedented feature of this study is that the authors worked closely with the entrepreneurs themselves, through interviews and questionnaires, while employing international comparative data. The various sources consulted in the writing of this report include: analyses, indexes, statistical data and qualitative research outputs. Primary data was collected and interpreted through a variety of methods, while secondary data completed a rather contextualized business landscape.

Figure 19 Methodological framework

1) 23 interviews of professionals in the following areas of expertise: entrepreneurship; innovation; parliament; university; business consultancy; management; non-governmental

organization; IP consultancy; creative industry; cultural industry; social policy; European funds absorption.

2) Own survey - 161 participants, February -March 2020;
3) International Indexes and country reports, Global Entrepreneurship Index, Doing Business, Small Business Act, Global Entrepreneurship Monitor, European Innovation Scoreboard, Eco-Innovation Scoreboard;
4) Scientific Articles & Entrepreneurial ecosystem in Romania reports;
5) Own tools of analyses: The Entrepreneurship Ecosystem Spectrum, The innovative Ecosystem Spectrum, Entrepreneurship Ecosystem Index;
6) Policy Recommendations.

Entrepreneurial Ecosystem Reports

A set of key policy messages are to be found in the report "Start-ups, Scale-ups and Entrepreneurship in Romania" prepared at the request of the Romanian Government within the framework of the Policy Support Facility (PSF) (Andrez et al, 2017). The report states that it aims to improve the design, implementation, monitoring, evaluation and readjustment of national research and innovation policies by assessing the Romanian innovative entrepreneurship and recommending measures for improvement. Our study reinforces some of the recommended measures, such as the open data approach and smart procurements.

The report 'The Romanian Entrepreneurial Ecosystem. Background Report', by Alfred Radauer and Laura Roman from Technopolis Group, was released in 2016 and was prepared for the European Commission, (Radauer and Roman, 2016). The report presents the innovation performance of SMEs, the start-up ecosystem, the policy framework and public and private support mechanisms for SMEs, relying on secondary statistics.

We also drew on other studies and embed their recommendations such as the case of the study conducted by Herman and Szabo (2014) on entrepreneurship who emphasize that institutions perform less efficiently than individuals. Successful and productive entrepreneurship requires a well-developed infrastructure, the working together of organised government and private institutions that make good use of the latest technology in the domains of innovation and entrepreneurship. "Analysis of the factors that obstruct the diffusion of innovation, including digitization, Increasing the capacity of the RDI system to respond to global challenges. Strengthening anticipatory capacity to develop evidence-based public policies" (Chioncel, 2019) constructs an in-depth and complete understanding of the state of the art of innovation in Romania and so we draw from its conclusions in the section dedicated to innovation.

Data, indexes and international rankings on entrepreneurship

Internationally, research on entrepreneurial ecosystem has flourished in the last decade and various indexes and frameworks have been constructed in order to assess entrepreneurship at national or regional levels. New indexes, such as digitization and eco-innovation indexes emerged, as complemented the entrepreneurship ecosystem or on their own. Recently, innovation ecosystem and the digital entrepreneurial ecosystem (Sussan and Acs, 2017) started to be developed to better assess and find answer to further ways of development. Along the data from European Innovation Scoreboard, The Eco-Innovation Scoreboard, Bertelsmann Transformation Index, data relevant at national level have been included from Eurostat, World Economic Forum, World Data Atlas, European

Social Values Survey, Small Business Act or Doing Business. Global Entrepreneurship Monitor, one of the most comprehensive data collection and analysis on entrepreneurship, ceased to assess Romanian ecosystem since 2015.

Guidance and supportive measures for developing successful entrepreneurship were provided. But entrepreneurship more than anything else, means risk taking. However, it is noteworthy that state encouragement of entrepreneurship does not lead to a healthy ecosystem if the context is characterized by perceptions of increased corruption and low levels of trust in both institutions and in other fellow men. According to Transparency International's annual Corruption Perceptions Index, as of 2019, Romania is the 70th least corrupt country out of 180 countries (at par with Cuba and Malaysia), down from the 57th place in 2017 and 61th place in 2018 (Transparency International, 2020).

The survey of the entrepreneurs and innovators

We looked through the lens of the Babson framework in order to form an understanding of the entrepreneurs in the national innovative entrepreneurial ecosystem. This gave us an insight into their view of their working environment.
The survey was analysed from three perspectives:

1) To assess the entrepreneurs' behaviour within the ecosystem, with a special focus on innovation behaviour.
2) To understand the entrepreneurs' perceptions and attitudes of the entrepreneurial ecosystem with a special emphasis on the difficulties encountered in the process of innovation, collaboration and commercialization;
3) To generate the index of the entrepreneurial ecosystem. Entrepreneurs and innovators were asked what were the difficulties they encountered during the innovation collaboration and commercialization processes.

Their replies are recorded as:

a) Edifying stories per se,
b) Grouped in categories through the lens of the Babson framework, following the 6 pillars of the ecosystems: Policy, Support, Culture, Finances, Markets and Human Resources. The Babson framework gives us a more comprehensive understanding of the bureaucratic processes, which are brought to bear on innovation, and marketing, from the perspective of the innovators and entrepreneurs. This perspective also allows for the comparability with other perspectives accounted for in the study: the experts, data and international rankings' perspectives.

The Participants.

The participants in this study were Romanian entrepreneurs. They were selected using convenience sampling from all the eight Development Regions. There were 161 participants, 109 males (38% of the males were educated at PhD level) and 42 females (63.4% of the females were educated at PhD level.) The age range was 18 to 65. Half of the participants are registered in Brain Map, which is the national online platform released by UEFISCDI with the aim of bringing together researchers and entrepreneurs throughout Romania.
The Procedure.
The participants were asked to participate by means of an online survey conducted in February and March 2020. The data collection procedure was done by using the Brain Map community and

entrepreneurial and innovation networks close related to country hubs, clusters and business accelerators.
Measurements. Entrepreneurship and innovation were examined in terms of attitude and behaviour. Some measurements were developed noting the comparative dimension of the survey carried out in 2015 in the context of the first exploratory study of the Romanian entrepreneurial ecosystem (Curaj et al, 2016).
The Tools.
The Statistical Package for the Social Sciences (SPSS) was used to describe and analyse data for this study. A confidence level of 95% was chosen as the criterion for testing the hypotheses.
The NVivo qualitative data analysis software was used in order to acquire a greater insight into the data through employing mixed methods of research

Actors of the ecosystem. Interviews

The number of interviews conducted is limited as the information was not meant to be statistically representative. Instead, the informed perceptions led us to acquire new information or data interpretation and integrate perspectives which otherwise would have been overlooked. We conducted interviews with entrepreneurs and innovators who are either at an early stage of development or who already run mature businesses. In order to have a more comprehensive picture on the businesses in the ecosystem, we also interviewed people from business consultancy and evaluation and professionals from non-governmental organizations, university researchers and entrepreneurial education. A wide range of professionals informed the present study, from policy makers to representatives of the creative and cultural industries.

The Methodology of the Romanian Entrepreneurial Ecosystem Index

We constructed in 2015 a Romanian Entrepreneurial Ecosystem Index (REEI) that captures contextual features of entrepreneurial ecosystem at national level. For a comparative perspective, we captured the REEI in 2020 to see if changes occurred. Through the survey undertaken during February and March 2020 we analysed the REEI. The index merely emphasizes the capacity of the entrepreneurial ecosystem to create, grow and support entrepreneurs, showing its degree of maturity.

The ‘’Romanian Entrepreneurial Ecosystem Index” (REEI) was created by UEFISCDI. It was based on the methodology provided by Endeavour Insight, a non-profit organization dedicated to high-impact entrepreneurship. The index puts together 5 key-measures of entrepreneurship: ‘inspiration’, ‘consultancy’, ‘work experience as an employee’, ‘mentorship’ and ‘investment’. In order to better understand the entrepreneurial environment, the REEI was divided into two components: the input component, consisting of inspiration, consultancy and work experience and the output or impact component, which consists of mentorship and investment.

Bibliography

Acs, Z. (2006). How is entrepreneurship good for economic growth? Innovations: technology, governance, globalization, 1(1), pp.97-107.

Acs, Z. J. and Sussan, F. (2017). The Digital Entrepreneurial Ecosystem (February 15, 2017). https://ssrn.com/abstract=2918535 or http://dx.doi.org/10.2139/ssrn.2918535 (Accessed on: 01.06.2020).

Acs, Z.J. and Szerb, L. (2009). The global entrepreneurship index (GEINDEX) (Vol. 24). Now Publishers Inc.

Acs, Z.J. and Varga, A. (2005). Entrepreneurship, agglomeration and technological change. Small business economics, 24(3), pp.323-334.

Andrén, D. and Roman, M. (2016). Should I stay or should I go? Romanian migrants during transition and enlargements. Labor migration, EU enlargement, and the great recession (pp. 247-269). Springer, Berlin, Heidelberg.

Andrez, P., Tataj, D., Dalle, J-M., Romanainen, J. (2017). Start-ups, Scale-ups and Entrepreneurship in Romania, European Union Directorate-General for Research and Innovation. https://rio.jrc.ec.europa.eu/sites/default/files/report/KI-AX-18-008-EN-N.pdf (Accessed on: 15.05.2020).

Anexo, del Programa „START UP CHILE. https://bit.ly/33K0oHK, (Accessed on: 15.05.2020)

Anton, S.G. and Onofrei, M. (2016). Public Policies to Support Entrepreneurship and SMEs. Empirical Evidences from Romania. *Transylvanian Review of Administrative Sciences*, 12(47), pp.5-19.

Audretsch, D. B. and Belitski, M. (2017) Entrepreneurialecosystems in cities: establishing the framework conditions. Journa l of Technology Transfer, 42 (5). pp. 10301051. http://centaur.reading.ac.uk/61156/ (Accessed on: 15.05.2020).

Bălan, M. and Olteanu, C. (201). Brain drain in the globalization era: the case of Romania. Annals of 'Constantin Brancusi 'University of Targu-Jiu. *Economy Series*, (3), pp.26-35.

Baumol, W.J. (1996). Entrepreneurship: Productive, unproductive, and destructive. Journal of business venturing, 11(1), pp.3-22.

Bechir, M. (2016). Cum se plimbă brevetele de invenții prin economia României. Curs de Guvernare https://cursdeguvernare.ro/cum-se-plimba-brevetele-de-inventii-prin-economia-romaniei.html (Accessed onŞ 15.05.2020)

Chioncel, M. (2019). Analysis of the factors that obstruct the diffusion of innovation, including digitization, Increasing the capacity of the RDI system to respond to global challenges. Strengthening anticipatory capacity to develop evidence-based public policies - POCA 127557. https://uefiscdi.gov.ro/resource-823027?&wtok=&wtkps=XY5LDgIhEETvwlqRr5CeOxgTTzABNB0Zcf6OxrvLsDG6q1S/l+oaNLx6kEB69KTKyQLh+jHh3k16wGvzdEI7pSIfl22LTrZyO8ekFrPSHAgWC4iRujQGiPf32/G0k4YJKyzTdj2IzH6bDVfcSiaYZcXSxTr8OZzlZ35AAWQOZTGnJvkxBpq6Cx3DGXvnkU4YZlp3A7oUSfX+AA==&wchk=f215b1e3916e9cdc98e84f35749fa67f454200a2, (Accessed on: 15.05.2020)

Cioc, M. and Ursăcescu, M. (2017). Innovative Entrepreneurship in A Regional Perspective: An Empirical Research on Romanian Start-Ups. Proceedings of the International Management Conference, Faculty of Management, Academy of economic studies, Bucharest, Romania, vol. 11, no. 1, pp. 871-877.

Cohuț, I.P. and Dodescu, A. (2018). There is an improvement compared to 2007-2013? The Annals of the University of Oradea, 7(1).

Corruption Perception Index (2018). Transparency International. https://www.transparency.org/en/publications/corruption-perceptions-index-2018 (Accessed on 01.062020).

Crişan, D.A., Preda, A.M., Stănică, J.L. and Samuel, A.N.A.,(2018). Innovation Performance Analysis for European Union Countries Focused on Modest Innovators: Romania and Bulgaria. Journal of Information Systems & Operations Management, pp.30-44.

Cruz-Ros, S., Garzon, D. and Mas-Tur, A. (2017). Entrepreneurial competencies and motivations to enhance marketing innovation in Europe. Psychology & Marketing, 34(11), pp.1031-1038.

Curaj, A., Mitroi, M., Paul, C, Saftescu, R. Simion, E. (2016). The Romanian Entrepreneurial Ecosystem. An Exploratory Study, Prospective Press, Bucuresti.

Daianu, D. and Murgescu, B. (2013). Which Way Goes Romanian Capitalism-Making a Case for Reforms, Inclusive Institutions and a Better Functioning European Union. *Romanian Journal of European Affairs*, 13, p.5.

David, D. (2015). Psihologia poporului român. Profilul psihologic al românilor într-o monografie cognitiv experimentală, Polirom, Iași.

David, T. and Mach, A. (2006). Institutions and economic growth: The successful experience of Switzerland (1870 - 1950), Research Paper, UNU-WIDER, United Nations University (UNU), No. 2006/101, ISBN 9291908851, UNU-WIDER, Helsinki. (https://www.startupcafe.ro/stiri-afaceri-21734503-infiintare-firma-srl-pfa.htm) (Accessed on 01.062020).

Davidescu, A.A., Paul, A.M.V., Gogonea, R.M. and Zaharia, M., 2015. Evaluating Romanian eco-innovation performances in European context. Sustainability, 7(9), pp.12723-12757.

Doing Business (2020). World Bank https://openknowledge.worldbank.org/bitstream/handle/10986/32436/9781464814402_Ch03.pdf, (Accessed: 01.06.2020).

Eurostat (2018). European Commission Statistics, https://ec.europa.eu/eurostat/data/database (Accessed: 01.06.2020).

European Innovation Scoreboard, (2020), https://interactivetool.eu/EIS/EIS_2.html Accessed: 5 June, 2020.

Gerencia de Emprendimiento (2017). Regulacion Corfo, 2017 – RE-038 (Bases Técnicas y Administrativas y su Anexo, del Programa „START UP CHILE"), 2. https://bit.ly/33K0oHKGheorghe, I. O. (2016). Explaining the Persistence of Unprofessional Bureaucracy in a Modernising State: Romanian Exceptionalism https://www.research.manchester.ac.uk/portal/files/54582539/FULL_TEXT.PDF (Accessed on 01.062020).

Gheorghiu, R., Andreescu, L. and Zifciakova, J. (2016). RIO Country Report 2015: Romania. *JRC*, Seville, JRC101213.

Ghinararu, C. and Mladen, L. (2016). Dimensions of atypical employment in Romania. Journal of Economic Development, Environment and People, 5(4), pp.24-37.

Global Competitiveness Index (2018). http://www3.weforum.org/docs/GCR2017-2018/03CountryProfiles/Standalone2-pagerprofiles/WEF_GCI_2017_2018_Profile_Romania.pdf (Accessed on 01.062020).

Global Innovation Index, (2019) https://www.globalinnovationindex.org/analysis-economy (Accessed: 01.06.2020).

Harpa, E., Moca, S. and Rus, D. (2016). A Comparative Study of Rural Entrepreneurship Romania–Greece. *Procedia Technology*, 22, pp.1100-1105.

Herman, E. and Szabo, Z.K. (2014). Considerations on Romania's entrepreneurial profile: Barriers to productive entrepreneurship. *Procedia Economics and Finance*, 15, pp.1740-1750.

Iacob, R. (2018). Bain Drain Phenomenon in Romania: What Comes in Line after Corruption? A Quantitative Analysis of the Determinant Causes of Romanian Skilled Migration, Romanian Journal of Communication and Public Relations vol. 20, no 2 (44) / July 2018, 53-78 ISSN: 1454-8100/ E-ISSN: 2344-5440

Iacob, Ș.V. (2018). The Spectral Analysis of Labor Force and Profit of Construction Materials Distribution Companies in Romania Analogue Spectrum of Light in Physics. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 8(3), pp.53-62.

Ilie, L.P. and Șerban, A. (2019). A retrospective analysis of raising start-up capital in Romania. Revista Economică, 71(4). Inclusive Entrepreneurship Policies: Country Assessment Notes Romania, 2018 inclusive entrepreneurship programmes in romania in 2014-2020. there is an improvement compared to 2007-2013?

INS, (2019) https://insse.ro/cms/files/Web_IDD_BD_ro/index.html (Accessed: 01.06.2020).

Isenberg, D. (2011). The Entrepreneurship Ecosystem Strategy as a New Paradigm for Economic Policy: Principles for Cultivating Entrepreneurship, The Babson Entrepreneurship Ecosystem Project, May 11, 2011,

iVOX (2019). Studiu iVOX despre antreprenoriatul la romani https://www.raiffeisen.ro/despre-noi/media/comunicate-de-presa/2019/studiu-ivox-despre-antreprenoriatul-la-romani/ (Accessed on: 01.06.2020)

Judt, T. (2001). Romania: Bottom of the Heap, The New York Review of Books, November 1, 2001, https://www.nybooks.com/articles/2001/11/01/romania-bottom-of-the-heap/ (Accessed on 01.062020)

Kontolaimou, A., Giotopoulos, I. and Tsakanikas, A. (2016). A typology of European countries based on innovation efficiency and technology gaps: the role of early-stage entrepreneurship. *Economic Modelling*, 52, pp.477-484.

Kshetri, N., (2013). The ingredients of a successful entrepreneurial ecosystem model: Evidence from Estonia and South Korea. The International Conference, Small and medium sized enterprises in a globalized world, p.27. 25-28 September 2013, Cluj Napoca Romania

Kshetri, Nir (2014). Developing Successful Entrepreneurial Ecosystems: Lessons from a Comparison of an Asian Tiger and a Baltic Tiger", *Baltic Journal of Management*, 9(3), pp.330- 356.

Kuratko, D.F., Morris, M.H., & Schindehutte, M. (2015). Understanding the dynamics of entrepreneurship through framework approaches. Small Business Economics, 45(1), 1–13.

Maier, D. (2018). The Romanian national innovation performance in the EU context. International Journal of Advanced Engineering and Management Research Vol. 3 Issue 6. P.123

Mason, R and Brown, C. (2013). Entrepreneurial ecosystems and growth-oriented entrepreneurship background paper prepared for the workshop organised by the OECD leed programme and the Dutch ministry of Economic Affairs on Entrepreneurial Ecosystems and Growth Oriented Entrepreneurship The Hague, Netherlands, 7th November 2013.

Miclea, M. (2019). We need these four meta-competencies to conquer the future. https://medium.com/remote-symfony-team/we-need-these-four-meta-competencies-to-conquer-the-future-34613090f48c (Accessed: 01.06.2020).

Morris, M.H., Neumeyer, X. and Kuratko, D.F. (2015). A portfolio perspective on entrepreneurship and economic development. *Small Business Economics*, 45(4), pp.713-728.

Müller, S. (2016). A progress review of entrepreneurship and regional development: What are the remaining gaps? *European Planning Studies*, 24(6), 1133–1158.

Mungiu-Pippidi, A. (2015). Corruption: Good governance powers innovation. Nature News, 518(7539), p.295.

Murgescu, B (2015). România și Europe. Acumularea decalajelor economice (1500-2010), Polirom, Iași.

National Institute for Statistics, https://insse.ro/cms/files/Web_IDD_BD_ro/index.htm (Accessed: 01.06.2020).

Nicolau, C. and Foris, T. (2018). Human Resources Crisis: Identifying Future Entrepreneur's Profile in Romania. *Procedia-Social and Behavioral Sciences,* 238, pp.572-581.

Nicotra, M., Romano, M., Del Giudice, M. et al. (2018). The causal relation between entrepreneurial ecosystem and productive entrepreneurship: a measurement framework. *J Technol Transf* 43, pp.640–673.

OECD (2018) Inclusive Entrepreneurship Policies: Country Assessment Notes. Romania, 2018. https://www.oecd.org/cfe/smes/ROMANIA-IE-Country-Note-2018.pdf (Accessed on: 01.062020)

Østergaard, A. and Marinova, S.T. (2018). Human capital in the entrepreneurship ecosystem. *International Journal of Entrepreneurship and Small Business*, 35(3), pp.371-390.

Paina-Racolta, N. (2018). Challenges for the Development of Social Entrepreneurship in Romania. Modelling the New Europe. An On-line Journal, (27), pp.160-182.

Pambuccian, V. (2020). Social media statement, Facebook ,7 April, 2020. Accessed on: 02.06.2020

Pușcaș, B. (2017). Romanian Public Procurement System. Reducing corruption risks in public procurement. The National Agency for Public Procurement. http://pubdocs.worldbank.org/en/999851495278567902/Romania-13th-PRIMO-Forum.pdf (Accessed on: 15.05.2020).

Radauer, A and Roman, L. (2016). The Romanian Entrepreneurial Ecosystem Background Report Horizon 2020 Policy Support Facility
https://rio.jrc.ec.europa.eu/sites/default/files/report/KI%20AX%2017%20002%20EN%20N%20Romania_Background.pdf (Accessed on: 01.06.2020).

Rauch, A. and Rijsdijk, S.A. (2013). The effects of general and specific human capital on long–term growth and failure of newly founded businesses. *Entrepreneurship Theory and Practice*, 37(4), pp.923-941.

Romania Corruption Report, (2017). Gain Integrity, Business Corruption Portal.
https://www.ganintegrity.com/portal/country-profiles/romania/ (Accessed on: 01.06.2020).

Saftescu, R. (2018). Benefits of Start-Up Chile Programme on promoting Chiles image abroad, *Revista Diplomacia: Robótica y Sociedad – El Futuro ineludible*, Academia Diplomática de Chile, (April 2018),

http://www.apuntesinternacionales.cl/revista-diplomacia-robotica-y-sociedad-el-futuro-ineludible-no-137-diciembre-2017/ (Accessed on: 01.06.2020).

SBA (2019). Small Business Act. Fact Sheet Romania, European Commission. file:///C:/Users/Cosmina/Downloads/Romania%20-%20SBA%20Fact%20Sheet%202019%20(11).pdf (Accessed on: 01.06.2020).

Schneider, F. and Enste, D. (2000). Shadow economies: size, causes, and consequences. *Journal of Economic Literature* Vol. xxxviii (march 2000) pp.77–114

Shepherd, D.A. and Wiklund, J. (2006). Successes and failures at research on business failure and learning from it. *Foundations and Trends in Entrepreneurship*, 2(5).

'Specific Support to Romania, Start-ups, Scale-ups and Entrepreneurship in Romania', (2017). Horizon 2020 Policy Support Facility, European Commission.

Start-Up Chile (2020). website. https://www.start-upchile.org/ (Accessed on: 01.06.2020).

The Eco-Innovation Index (2018). European Commission, https://ec.europa.eu/environment/ecoap/indicators/index_en (Accessed on 01.062020).

The Global Entrepreneurship and Development Institute, (2020). https://thegedi.org/datasets/ (Accessed on: 01.06.2020).

Transparency International, (2020). https://www.transparency.org/en/countries/romania (Accessed on: 01.06.2020).

UNESCO (2019). Culture for Development Indicators. Romania's Analytical Brief and Technical Report, https://www.culturadata.ro/unesco-culture-for-development-indicators-romanias-analytical-brief-and-technical-report/ (Accessed on: 01.06.2020).

Varblane, U. Mets, T. and Andrijevskaja (2010). Knowledge based entrepreneurship in Estonia. CASE Network Studies & Analyses No.407, pp. 4-43.

Wagner, A., Stan, L., Bonker, F. (2018). Romania Report Romania Country Report | SGI Sustainable Governance Indicators. https://www.sgi-network.org/docs/2018/country/SGI2018_Romania.pdf (Accessed on: 01.06.2020).

Wiklund, J., Patzelt, H. and Shepherd, D.A. (2009). Building an integrative model of small business growth. *Small Business Economics*, 32(4), pp.351-374.

World Bank (2019). Buyer Sophistication Indicator. https://tcdata360.worldbank.org/indicators/buy.soph?country=ROU&indicator=629&countries=BRA&viz=line_chart&years=2017,2019 (Accessed on: 01.06.2020).