



ENTREPRENEURIAL ECOSYSTEM: EXPERTS' PERSPECTIVES OF MEXICO

Área de investigación: Entorno de las organizaciones

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Abstract



Entrepreneurial ecosystem is a recent research approach, that is helping to understand how new innovative and competitive new firms emerge in determinate geographic space and also under which conditions these entrepreneurship activities interact with other components of the “ecosystem”. Using this conceptual framework this study identifies some factors that difficult the entrepreneurial activity, some others that foster it, and finally some actions that can be taken to promote the entrepreneurial activity in Mexico. We use the Global Entrepreneurship Monitor, National Experts Survey applied to 72 key informants in Mexico between the years of 2015 and 2016. Our results show that financial support is one of the main factor that is an obstacle for new firm creation, public pro-entrepreneurship programs the main that foster it, and finally have better governmental policies could enhance entrepreneurship activities in experts’ opinion. We conclude with some implications for public policies in the Mexican entrepreneurial ecosystem framework.



1. Introduction

Entrepreneurship has been known for serving an important function in the creation of jobs, economic growth, and the development of many geographic entities, from small villages to regions and even entire countries (Lour et al., 2014). Many of the empirical research has also outstand the role of entrepreneurship and the new business creation as a mechanism for the creation of jobs, innovation, and economic growth (Thurik & Wennekers, 2004). Some research in entrepreneurship mechanisms provides a better understanding of new firms creation dynamics, and helps developing tools, public policies, and other support systems that can help improving the entrepreneurial ecosystems around the globe. There are many economic and non-economic factors that can influence entrepreneurship in that sense (De Clercq & Arenius, 2006; Levie & Autio, 2008; Frederick & Monsen, 2009), but the mix of all contributes to the creation of organizations and economic growth. The convergence between the academic development of entrepreneurship and its impact in the practice of it, is a research field that has given birth to projects like the “Global Entrepreneurship Monitor” -GEM which recognizes the approach to the entrepreneurial ecosystem as the framework of the conditions needed to launch a business, which it defines as the “Entrepreneurial Framework Conditions” -EFC’s (Reynolds, 1999). The recognizing of the entrepreneurial ecosystem is a recent research approach, but the same recognition of the importance of entrepreneurship has unchained a transition to pay special attention in the policies that might help not only increasing the quantity of new business ventures, but also the quality of them (Stam, 2015).





In accordance with Fabre and Smith (2003) an entrepreneurial culture is needed in Mexico and it should not be about increasing entrepreneurial activity only, rather the challenge is about motivating and enabling people to pursue higher-value-added entrepreneurship. Even Mexico shows an increasing positive trend in GEM's Total Early-stage Entrepreneurial Activity -TEA indicator, and in the total entrepreneurship activity between the years 2010 to 2015 (Naranjo et al., 2016) "most of the entrepreneurship is concentrated among low-risk, low-value-added endeavors that require minimum investment of capital" (Fabre and Smith, 2003, p. 4), that means very low innovative new firms. Innovation is the key component by which better quality of high-value-added entrepreneurial activities will increase the competitiveness of the Mexican economy and create the jobs that the country requires. In the case of Mexico, the innovation process is generated in an embryonic ecosystem in which the higher education institutions, research centers, government, financial entities, and companies should interact and participate in a coordinated complementary and systematic way (*Comité Intersectorial para la Innovación*, 2011, p. 10). Therefore, it is necessary the development of coordinated mechanisms between the factors to create a successful entrepreneurial ecosystem, but also the development of accountability mechanisms that allow the review and continuous improvement of the public policies.



The high-value-added entrepreneurship can be fostered both by encouraging business creation and encouraging the development and expansion of existing businesses (Fabre and Smith, 2003). *Gobierno de la República* (2013) published the "Program of Innovation Development 2013-2018" where there are stated five factors for the low productivity of companies in Mexico which this research considered as main possible constrains of the entrepreneurial activity and would be tested. Those five factors are related with (1) financial sources and access to capital, (2) inadequate management and managerial skills, (3) insufficient productive and technological capacities, (4) lack of information relevant to decision-making, and (5) there is a little link between universities and research centers with businesses. Given that each country has different mix of those factors like policies, education systems, cultures, and many other factors that differ from one place to another, the GEM project defines and measures the EFC's because they have a direct effect over the outputs and inputs of the entrepreneurial activity and so they are considered as the "rules of the game" (Amorós et al., 2013) or entrepreneurial ecosystem conditions which this research analyzes for the case of Mexico in general.



Supported by GEM data extracted from the National Expert's Survey -NES the central objective of this research is to identify the main factors that difficult the entrepreneurial activity, some others that foster it, and finally some actions that can be taken to promote the entrepreneurial activity in accordance with a sample of Mexican experts. Our result could have implication for the design of better pro-entrepreneurship public policies. Indeed, this research provides a better

understanding of the Mexican entrepreneurial ecosystem and proposes actions to make it successful taking into consideration experts' perspectives of it.

2. Theoretical development: entrepreneurial ecosystems

The recent literature about entrepreneurial ecosystems is directed to the participants of the ecosystem, mainly entrepreneur leaders and policy makers, not too much for an academic audience (Stam, 2015). It is directed to practitioners, but a causal relation and base evidence that supports it, is limited. Naturally, the entrepreneurs are considered the central heart of a successful ecosystem, but successful entrepreneurial ecosystems have nine attributes according to Feld (2012). Other authors suggest less or more attributes/factors for a successful entrepreneurial ecosystem (Reynolds et al. 2005; Isenberg, 2011; World Economic Forum, 2013; Stam, 2015). **Table 1** shows the different sets of a successful entrepreneurial ecosystem according to various sources and it helps to compare the propositions for a categorization process during the analysis of the 72 experts' surveys with which the authors concludes. Some of those propositions for the entrepreneurial ecosystem compositions are the same or similar in definition among the different sources like finance (Isenberg, 2011), Capital (Feld, 2012), Funding and Finance (World Economic Forum, 2013), Financial Support (Reynolds et al. 2005), and Finance (Stam, 2015), on top of **table 1**.

Feld (2012) takes into consideration some internal factors (leadership and engagement) that are traits of the entrepreneur, like Baum et al. (2001) did, but also external factors of the ecosystem to explain the context in which entrepreneurship is develop. Meaning by ecosystem, the biological point of view, not literal, as the interaction of living organisms with the physical environment to make reference that entrepreneurship is carried out in communities with interdependent actors (Stam, 2015). On the other hand, the World Economic Forum (2013), enlisted eight pillars needed for a successful entrepreneurial ecosystem (**table 1**) where some of them have the presence of dimensions like resources (human, financial and services), the formal institutions (government and regulatory framework), and informal (cultural support) that together make possible the entrepreneurial activity.



Table 1
Proposed sets of attributes/factors/conditions
for successful entrepreneurial ecosystems

Isenberg (2011)	Feld (2012)	World Economic Forum (2013)	Reynolds et al. (2005) GEM EFC's	Stam (2015)
Finance	Capital	Funding and Finance	Financial Support	Finance
Policy	Government	Government and Regulatory Framework	Government Policy	Networks
Human Capital	Network Density	Human Capital/ Workforce	Government Programs	Leadership
Markets	Talent	Education and Training	Entrepreneurial Education	Talent
Support	Leadership	Major Universities as catalysts	R&D Transfer	Knowledge
Culture	Companies	Accesible Markets	Commercial and Professional Infrastructure	Support services/ intermediaries
	Intermediaries	Support Systems/ Mentors	Internal Market Openess	Formal Institutions
	Support services	Cultural Support	Physycal and Services Infrastructure	Demand
	Engagement		Cultural and Social Norms	Physical infrastructure
				Culture

Sources: (Reynolds et al. 2005; Isenberg, 2011; World Economic Forum, 2013; Stam, 2015)

Isenberg (2011) states apart from the six domains of an entrepreneurship ecosystem, that each entrepreneurship ecosystem is unique and adds the examples of Israel, Ireland, Taiwan and China ecosystems that evolved under certain conditions that were not necessarily the same for all. Indeed, Isenberg





(2010) argues nine prescriptions for creating an entrepreneurship ecosystem departing from the same idea about that each entrepreneurship ecosystem is unique so that is why the first of these nine prescriptions is about stop trying to replicate or copy Silicon Valley (First place by the Global Startup Ecosystem Ranking). Silicon Valley is under a unique set of circumstances that reinforce its success like the industries present, link with local universities, doctoral students, and the culture among other things. If it is difficult to enforce people to pursue a career in entrepreneurship already and then make them all succeed, it is even more difficult to create an entrepreneurial ecosystem. Isenberg (2010) nine prescriptions are:

- i. Stop emulating Silicon Valley.
- ii. Shape the ecosystem around local conditions.
- iii. Engage the private sector from the start.
- iv. Favor the high potentials.
- v. Get a big win on the board.
- vi. Tackle cultural change head-on.
- vii. Stress the roots.
- viii. Don't overengineer clusters; Help them grow organically.
- ix. Reform legal, bureaucratic, and regulatory frameworks.



3. Methodology

3.1 Data Collection

Research in entrepreneurship ecosystems suggests differences to establish a consensus about the components of certain concept, but also “entrepreneurship ecosystem” is the prevalent theory for boosting entrepreneurship as an economic development strategy (Isenberg, 2014). Due to the difficulty to establish what exactly is successful entrepreneurial ecosystems (Isenberg, 2010) research about it is needed to propose better actions. The GEM consortium provides useful data from the measures the EFC's though the NES. GEM teams assess the quality of their entrepreneurship ecosystem through the NES (Herrington et al., 2017, p. 10). The NES monitors the factors considered to have a significant impact over entrepreneurial activity and this survey is administered to a minimum of 36 experts per year by participant country in the GEM project (Reynolds et al., 2005) where those experts are taken as a systematic sample of professors, researchers, investors or bankers, public policy makers, and sometimes additionally one or more are also entrepreneurs, but not everyone.



Thus, we review the NES data from Mexico since it follows a worldwide standardized methodology implemented by GEM (Levie & Autio, 2008) and it has been used previously to propose the design of governmental policies that foster entrepreneurial activity (Amorós et al., 2013). The NES uses qualitative information mainly to measure the nine EFC's, but the instrument also includes nine open questions that are barely analyzed by researchers worldwide. Given that the objective of this article is to identify the main factors that obstruction



the entrepreneurial activity, some others that foster it, and finally some actions that can be taken to promote the entrepreneurial activity. The authors used the open questions to conduct the analysis of the entrepreneurial ecosystem constrains in Mexico using data collected from 2015 to 2016 (2 years). Each year the experts were personally interviewed and asked to complete the NES self-administered survey in Spanish language where four of them were considered experts in one of the nine EFC's and between them at least one entrepreneur, at least two providers of the EFC's, and at least one observer; such as an academic with specific expertise in the area (Reynolds et al. 2005; Amorós et al., 2013) which left us a sample of $N=72$ experts in Mexico (4 experts X 9 EFC's= 36 respondents X 2 years= 72 respondents).

3.2 Sample Characteristics

Pooling the two-year data (2015 and 2016) the authors obtained a final sample of 72 valid cases. From them 8 experts for each EFC's were obtained as expected according to the GEM methodology (Reynolds et al. 2005; Amorós et al., 2013) with an average age of 44.42 years where 44 (61.1%) experts were male and 28 (38.9%) female. The administration of the NES's were conducted to 17 (23.6%) experts by face to face interview, 54 (75%) by on line administrations, and 1 (1.4%) was conducted by phone. A further description of the principal characteristics of the sample is provided in **Table 2**. From the total sample, none of the experts had fewer educational attainments than vocational professional with 3 (4.2%) experts, a bigger sample of 19 (26.4) experts had "University/College" attainments and the rest of experts with a biggest sample of 50 (69.4%) which were the majority had higher educational attainments like "MA, PhD ...". Regarding the experts specialization, a mix between the categories of the sample is possible since it is possible for example to have an expert that is entrepreneur but also a policy maker and even a business and support services provider as well. Many different mixes can be inferred from the expert specialization then in **Table 2** more detailed information of the sample is provided taking into consideration the valid cases for each variable that were considered in the data collection process.



Table 2

Sample composition		(N=72)	
Sample Characteristics		Total	% of Total
Type of interview	Face to Face	17	23.6%
	On line	54	75.0%
	By phone	1	1.4%
Primary EFC Expert Specialization	Financial Support	8	11.1%
	Government Policies	8	11.1%
	Government Programs	8	11.1%
	Education and Training	8	11.1%
	R&D transfer	8	11.1%
	Commercial and Professional		
	Infraestructure	8	11.1%
	Market Openness	8	11.1%
	Access to Physycal Infraestructure	8	11.1%
	Cultural and Social Norms	8	11.1%
Demographics	Average Age	44.42	
	Male	44	61.1%
	Female	28	38.9%
Educational Attainment	Primary	0	0.0%
	Secondary	0	0.0%
	Vocational Professional	3	4.2%
	University/College	19	26.4%
	MA, PhD,...	50	69.4%
Expert Specialization	Entrepreneur	43 ^a	86% ^b
	Investor, financier, banker	18	25.0%
	Policy Maker	29	40.3%
	Business and support services provider	35	48.6%
	Educator, teacher, entrepreneurship researcher	27	37.5%

a Valid cases for each variable

b Percentage based on total valid cases for each variable

3.3 Measures

NES is divided into sections that evaluate nine categories: financial support, government policies, government programs, education and training, R&D transference, commercial and professional infrastructure, internal market openness, access physical infrastructure, and socio-cultural norms (Reynolds et al. 2005; Amorós et al., 2013). The standard NES includes from 5 to 8 questions for each EFC in a 9-point Likert scale (where 1= “Completely False” and 9= “Completely True”) which most of the empirical studies uses to conduct research in different countries (Levie, J., & Autio, E., 2008; Amorós et al.,





2013). There are additional nine open questions of the standard NES which provide more qualitative data for analysis. This information is scarcely used. For this research the authors use those nine open questions to analyze the experts' perspectives toward the entrepreneurial ecosystem in Mexico. From the nine open questions, the first three asked about factors and/or areas that are obstructing the entrepreneurial activities in their country, next three factors and/or areas that foster the entrepreneurial activities in their country, and finally the experts were asked for three actions that from their perspective can be taken to promote an improvement for the entrepreneurial activity outputs.

Thereupon, these answers are classified in 20 different categories, defined by GEM¹. The categorization process helped to a deeper data qualitative analysis. Those 20 categories consist in: (1) Financial Support, (2) Government Policies, (3) Government Programs, (4) Education and Training, (5) R&D Transfer, (6) Commercial and Professional Infrastructure, (7) Market Openness, (8) Access to Physical Infrastructure, (9) Cultural and Social Norms, (10) Capacity for Entrepreneurship, (11) Economical Climate, (12) Workforce Features, (13) Perceived Population Composition, (14) Political, Institutional, and Social Context, (15) Economic Crisis, (16) Corruption, (17) Different Performance of Small, Medium, and Large Companies, (18) Internationalization, (19) Labor Cost Access and Regulation, and (20) Information. Additional authors' interpretation of the responses was done for the categorization and analysis.

3.4 Method

First, the responses were categorized into the 20 categories previously defined accordingly to the interpretation of the authors about the usage of words and expressions related to specific topics assigning the number correspondent to the relevant category. Second, after the first step of conversion from text to numerical data, descriptive data and frequency tables were calculated to identify the main categories that experts selected as factors/areas that are obstructing and/or fostering the entrepreneurial activities in their country, and/or factors/areas that need actions to promote an improvement for the entrepreneurial activity outputs in accordance with experts' perspectives of Mexico's entrepreneurial ecosystem. Third, the authors reviewed all the responses of the sample to extract more specific information about what in each of the categories are the general constrains of the entrepreneurial ecosystem in Mexico and to propose solutions that enhance entrepreneurial activity. Finally, conclusions were given respectively for the creation of a successful entrepreneurial ecosystem in Mexico following some considerations from previous research about entrepreneurial ecosystems (Reynolds et al., 2005; Isenberg, 2010; Isenberg, 2011; Feld, 2012; World Economic Forum, 2013; Amorós et al., 2013; Isenberg, 2014; Stam, 2015).

¹ These categories are in line with the factor described by WEF (2013) and Isenberg (2014).



4. Results

4.1 Factors and/or areas that are obstructing the entrepreneurial activity

Experts were asked to mention and explain if necessary 3 factors/areas that from their perception are obstructing the entrepreneurial activity in their country (Mexico). Findings will help the authors to conclude about the main factors/areas that need attention and conclude about the implications of proposals for further policies to construct a successful entrepreneurial ecosystem. First, beginning with the categorization process of the 72 responses from experts in Mexico the first finding was that the category of “*Financial Support*” got the most related answers with 45 (62.5%) from the sample. According to the World Economic Forum (2013) “Funding and Finance” is the most important pillar for growth/success of companies in Mexico. Both are different in names but the same in definition as the condition needed of financial services available for venture growth and creation. All the proposed sets of attributes/factors/conditions for successful entrepreneurial ecosystems in **table 1** considered the availability of appropriate finance even though the authors name them differently. Also, it is consistent with the first factor that decreases productivity of companies in Mexico stated in the introduction which is related with financial sources and access to capital that present the problems of high interest rates, lack of information, and excessive warranties required by the banks (*Gobierno de la República*, 2013).

There are many aspects mention by experts related to the category of *Financial Support*. The absence of enough capital and resources is affecting the entrepreneurial activity because experts said that there are not enough seed capital funds neither venture capital nor access to debt through banks. Indeed, the main problem detected is that in Mexico it is very difficult to capitalize entrepreneurial ideas and most of the entrepreneurs do not have access to all the capital they need to start their business so they end up opening traditional business or nothing instead of high impact ventures. This explains the results from GEM when they measure the Total Early-stage Entrepreneurial activity (TEA) in different countries and results show higher TEA rates in economies with lower economic development like most of Latin American countries including Mexico, the Caribbean and in Africa, than in more develop economies like United States of America (Herrington et al., 2017, p. 8).

Basically, in Mexico there are high levels of entrepreneurial activity, but it is important to have more innovative and high impact ventures to contribute the GDP and jobs creation. As Stam (2015) argues we need to pay special attention to the policies that can help not only increasing the quantity of new business ventures, but also the quality of them. Some experts also mentioned the difficulties in the financial system to get a loan because bank credits are too expensive, difficult to access them and there is not enough offer for entrepreneurs. Even though, banks don't and should not lend to startups because that is not their business, banks financial markets mature and directly impact



the entire chain of investing (Isenberg, 2014). Some actions have to be taken to promote risk investments like seed funds, venture capital and angel investors over high impact entrepreneurship rather than all kinds of business ventures.

Also the financial system has to mature in order to offer more accessible loans to entrepreneurs which are already developing their businesses, but right now do not have fair interest rates and conditions to obtain loans and keep growing. Another important category that more than half of the experts from the sample identified as obstruction of the entrepreneurial activity with their related answers was “*Government Policies*” with 37 (51.5%) from 72 respondents.



Analyzing one by one the answers the authors found that inside this second category, most of the answers were specifically directed to bureaucratic problems that entrepreneurs face when trying to start a business. The procedures are complicated, slow and low cost-efficient which end on obstructing the entrepreneurs to develop their core business activities. The *government policies* should facilitate the creation and operation of new businesses as well as being easy to manage and accomplish for everyone. Some experts mention taxes and issues with fiscal policy in this category because according to them there should be incentives and special considerations for new business owners. Special considerations should be considered in the mid time the entrepreneurs settles his new business venture in the market and to compete against informal entrepreneurs that evade paying taxes. Trying to accomplish the same fiscal responsibilities that established companies puts on disadvantage the new business owners in accordance to experts' perceptions.



Sharing the third position of the categories identified by experts as obstructions of the entrepreneurial activity, we found from the answer's analysis: “*Education and Training*” and “*Cultural and Social Norms*” with 17 (23.6%) respondents each from the sample of 72 experts. The World Economic Forum (2013) stated both as the least important pillars to the growth success of a company in Mexico. Contrary for *education and training* findings through the qualitative analysis of answers, showed that the main constrain is related with the deficiency and scarcity of programs that prepare and capacitate entrepreneurs to face real life situations. The experts' perceptions regarding this category is that there should be more programs that impulse the creation of new businesses from primary and secondary levels of education (elementary, middle school and high school) to higher education (college/university). In the other hand, *cultural and social norms* was identified as obstructing category of entrepreneurial activity in Mexico by experts, because there is a perception from them that there is a lack in the national culture that should push youth to be more proactive and to take the initiative for entrepreneurial projects. The Mexican culture is individualistic according to experts and that does not help fostering entrepreneurial activity neither taking risks. Mexicans also grow up in families where the custom is to go out and find a job even before having an education in some cases according to the socio economical context of each person. Fabre and Smith (2003) identified that building an entrepreneurial culture in Mexico



is important, but the current status of it shows a lack of education relevant to entrepreneurship and it is an important cause of business failure in this country.

Capacity for entrepreneurship got 16 (22.2%) of expert's responses while *Corruption* got 15 (20.8%) from the total. The authors identified that *capacity for entrepreneurship* is related with some aspects found in the *cultural and social norms* answers, like culture as enhance for individuals to take the initiative to create new business ventures which also is an aspect found in the capacity for entrepreneurship, but the difference is that *capacity for entrepreneurship* analysis the individual aspects of the entrepreneurs and *cultural and social norms* analyses the general context where entrepreneurs grow up. Even though, other aspects emerge from the analysis of *capacity for entrepreneurship* such as the lack of planning, fear to failure, ignorance of support program, and more importantly the authors found several responses related with the lack of understanding and research of the market. Generally the entrepreneurship in Mexico is for necessity than for recognition or finding of an opportunity in the market according to experts' perceptions. Both, *Education and Training* and *Capacity for entrepreneurship* are related with the second factor about inadequate management and managerial skills that decreases productivity of businesses (*Gobierno de la República*, 2013). For the other category, *Corruption* is also related with the context or environment where the entrepreneurs evolve. It is a constraint of competitiveness considered the most problematic factor for doing business recognized by experts from our sample and since it has gained in prominence especially in countries where recent scandals have exposed its economic costs, such as Brazil, Hungary, Italy, Mexico, and Spain (Schwab, 2015). In this particular case *corruption* is a significant risk for companies operating in Mexico because experts relate it to organized crime, bureaucracy and inefficiency of governmental programs.

A research conducted by Isenberg (2014) showed that according to some entrepreneurs interviewed, they recognized three challenges everywhere which were: access to talent, excessive bureaucracy and scarce early stage capital. This research is consistent with those finding because the previously mentioned categories identified as obstructions of the entrepreneurial ecosystem in Mexico by experts (*Financial Support, Government Policies, Education and Training, Cultural and Social Norms, Capacity for Entrepreneurship, and Corruption*) represented more than 20% of the sample responses each and some of them are complementary in content of the answers collected against the challenges entrepreneurs from Isenberg (2014) study mentioned. Isenberg (2010) argues as the ninth prescription to create a successful entrepreneurial ecosystem to reform legal, bureaucratic and regulatory frameworks. Those are the main aspects that experts identified as issues in all the categories mentioned before.

Finally, the World Economic Forum (2013) states some government/regulatory policies as growth inhibitors for early-stage companies where also bureaucracy, lack of transparency, time delays/lengthy approval processes, lack of



clarity/confusing, complexity, and regulatory uncertainty/changing regulations, are mentioned among others we found in the answers from experts.

The rest of the experts' responses were categorized as well, but none of those categories represented a final count of more than 20% which the authors considered that were not representative to be obstructions that require immediate improvement and actions. Those categories were: *Information: all responses related to this topic (18%), Economical Climate (14%), Government Programs (13.9%), Political, Institutional, and Social Context (11.2%), R&D Transfer (8.4%), Commercial and Professional Infrastructure (7%), Market Openness (7%), Different Performing of Small, Medium, and Large Companies (7%), Access to Physical Infrastructure (2.8%), Perceived Population Composition (1.4%), Labor costs, Access and Regulation (1.4%), and Work force Features (1.4%)*. Both, *Economic Crisis* and *Internationalization* categories did not get responses related from experts which mean that does not need immediate action to create a successful entrepreneurial ecosystem in Mexico.

4.2 Factors and/or areas that are fostering the entrepreneurial activity

Later on, experts were asked to mention and explain if necessary 3 factors/areas that from their perspective are fostering the entrepreneurial activity in their country (Mexico). Now, the first category with the most related answers was *Government Programs* with 32 (44.4%) responses from the sample as a foster of entrepreneurial activity while before the same category got 10 (13.9%) of the responses when the question was about obstructions of the entrepreneurial activity. The authors identified from the qualitative analysis of each answer that experts recognize that there are federal and state programs that foster the entrepreneurial activities principally with funds for entrepreneurs. Though, those programs are difficult to enter and most of them are sectorial for specific activities the government sets as priorities leaving some entrepreneurial projects out without support. It exist in Mexico the National Institute of Entrepreneurship (INADEM) since 2013² created in support of the entrepreneurs and micro, small and medium companies, which creates and manage public funds through convocations for specific purposes like the creation and growth of businesses. Experts' perceptions of INADEM are mentioned as a government program that is helping the entrepreneurial activities in Mexico, but it still remains short of budget, with different priorities and not everyone can access to their public convocations. Even there are good programs that foster the entrepreneurial activities they also need to take some actions for improvement and more government programs should be created with other priorities because some entrepreneur cannot access the existing ones according to experts' perceptions. The experts mentioned also incubators and accelerators as part of the government programs that need attention and both necessarily need to work together linking entrepreneurs with programs.

² INADEM is a public organism decentralized of the Secretary of Economy





The second category with the most related responses was *Education and Training* with 30 (41.7%) responses of the total. This category was also mentioned as a constraint for entrepreneurial activity, but when analysis the answers the authors found differences. *Education and Training* as a constraint for experts referred to the absence of programs that impulse the creation of new businesses from primary and secondary levels of education (elementary, middle school and high school) to higher education (college/university). While the same category as a foster of entrepreneurial activity refers to the existing effort of higher education institutions to include and create entrepreneurship development programs. The experts mentioned that there are already many actions taken by universities to pursue innovation and entrepreneurship at their different career programs of specialization. Indeed, there are also some programs for high school level of education, but still there should be since primary education which was mentioned by experts. Including in this category the creation of communities for entrepreneurs and increasingly number of events schedule during the year to share knowledge and doing networking is a good foster of entrepreneurial activity according to experts' perceptions.



The third position corresponds to the *Government Policies* category with 24 (33.3%) of the responses from the sample as a foster of the entrepreneurial activity, but the same as *Education and Training* happened and this category was also identified as a constraint which required for this analysis a deeper review of the answers. As a constraint most of the answers were specifically directed to bureaucratic problems that entrepreneurs face when trying to start a business which experts defined as a lack of understanding of the entrepreneurial activities that need special policies in order to set them under equal opportunities as the established companies and not in disadvantage trying to accomplish the law in matter of fiscal policy and taxes. For that reason as a foster of the entrepreneurial activity, not all *government policies* are constraints because some of them have improved in the regulatory framework that enables and facilitates entrepreneurs to work under equal opportunities against established companies. The experts recognized an improvement in some policies related to the strengthening of the entrepreneurial ecosystem like the fiscal policy and the ones related with social security systems for new business ventures in Mexico.



Finally, *R&D Transfer* is the last category with a response ratio above the 20%, with 21 (29.2%) total responses from the sample of experts. In this category the authors found mainly aspects respect to the role of business incubators and accelerators which allowed the link between education centers and finance through different services developed due to the network with companies and other institutions that facilitates the access to technology. In this case the evidence show that for experts' perceptions there is a good link between universities and research centers with companies which is the fifth factor that decreases the productivity of businesses (*Gobierno de la República, 2013*), so special attention must be taken to increase it and/or maintain it at that level. The



activities and convocations organized by the National Council for Science and Technology (Conacyt)³ have been recognized as fosters of the entrepreneurial activity in Mexico because it manage and promotes the research and development of scientific and technological projects. The impulse that is mentioned is related with public funds for technology-based entrepreneurship which helps the premise of a successful entrepreneurship is the one with higher quality of new business ventures instead of increasing the quantity only (Stam, 2015).



The rest of the expert's responses were categorized as well, but none of those categories represented a final count of more than 20% from the total which the authors considered that were not representative to be direct fosters of the entrepreneurial activity. Those categories were: *Capacity for Entrepreneurship* (19.5%), *Cultural and Social Norms* (19.5%), *Information: all responses related to this topic* (16.7%), *Work force Features* (15.3%), *Financial Support* (12.6%), *Market Openness* (11.2%), *Economical Climate* (8.4%), *Political, Institutional and Social Context* (8.4%), *Internationalization* (7%), *Access to Physical Infrastructure* (4.2%), *Perceived Population Composition* (4.2%), *Commercial and Professional Infrastructure* (2.8%), *Different Performing of Small, Medium and Large Companies* (2.8%), *Economic Crisis* (1.4%), and *Labor costs, Access and Regulation* (1.4%). In this case *Corruption* did not get a single related answer as a foster of entrepreneurial activity, but for the opposite side the categories with the less responses when asking for fosters are the ones that should be the contrary to be consider as constraints as well. Indeed, *corruption* is not a foster it is a constraint as the experts identified with 20.8% of the responses identified as related. Then, special attention should be paid to other categories not mention in further detail as the top fosters of the entrepreneurial activity as happened with *corruption*, but suggestions to take actions from experts' perceptions are provided in the next section of the results.



4.3 Actions that can be taken to promote the entrepreneurial activity

The experts proposed more actions for *Government Policies* with 55 (76.4%) of the responses from the sample than for other categories. This is the same category you can find as a constraint and as a foster of the entrepreneurial activity in Mexico at their respective sections. Finding were that there are already good policies that are fostering the entrepreneurial activity, but also it is a sensitive category because experts mentioned as a constraint that the *government policies* should facilitate the creation and operation of new businesses as well as being easy to manage and accomplish for everyone. Some other experts mention taxes and issues with fiscal policy in this category because according to them there should be incentives and special considerations for new business owners. As a final result this section provides useful information from the experts' perspectives of actions that can be taken to keep growing a successful entrepreneurship ecosystem in Mexico. The experts were



³ Spanish abbreviation for *Consejo Nacional de Ciencia y Tecnología*

also asked to propose three actions that promote the entrepreneurial activity for their perspective.

Following in the same line of actions that can be taken related to *government policies* the authors found enough evidence that suggest the creation of a general “Law for Entrepreneurship”. The law for entrepreneurship should include reducing bureaucracy in government dependencies that facilitates and simplifies how business are created and opened. The same law also should be very clear and include necessarily the structure of a tax reform that incentives the formal economy through a simplify taxation and with stimulates for entrepreneurs to accomplish them during the early-stages of their entrepreneurship without being in disadvantage against the informal economy or stablished companies. Additionally, the law for entrepreneurship should include regulations for the financial system to reduce the requirements to acquire financing as well as to reduce the interests’ rates which are higher in Mexico than other countries. Some experts suggest the creation of a specialized in entrepreneurs financial institution which can provide more customized services rather than general services like other institutions. As a separate action proposed is the diffusion of the new regulations, policies and programs to provide better access to more entrepreneurs that ignore them.

In *Education and Training* the experts mentioned that one constraint is that there should be educational programs since primary and elementary education until higher education, all the way through it, to prepare entrepreneur to face real life situations and change their mindsets for being more innovative and leaders that could be entrepreneurs in the future. Some experts even recognized that there are already some higher education institutions that are implementing well these changes of the model of education for their academic programs. That is the reason why again one of the main actions to promote the entrepreneurial activity in Mexico is related with including topics of entrepreneurship to all levels of education not only higher education. Actually, the experts mentioned that it is not only including it to lower levels of education but also expanding coverage and quality of it all the way until higher education to achieve better quality of the entrepreneurial ventures along time. Another problem with entrepreneurial education identified is that the existing one sometime is not updated which is important for the entrepreneurs because it allows them to use the latest methodologies to detect opportunities and validate them in the market rather than only develop business plans and also to let them know about the available funds and programs that can be link with their business ideas in the future.

The actions proposed for *Financial Support* are closely related with one of the aspects mentioned that should include the general “Law for Entrepreneurship” as a *governmental policy* about the creation of a specialized on entrepreneurs financial institution. At least better interest rates should be considered for entrepreneurs and a wider offer of financial services that also support strategic sectors. One important issue is the requirements to get financing even when it





is not seed capital and it is a loan because banks are very restrictive in those requirements for new business which as an action should be less. The actions for *governmental programs* are also related with *governmental policies* and *financial support* because they are complementary and make the government responsible for improving them. There are also *governmental programs* that are fostering the entrepreneurial activity like the INADEM, but it needs more budget to help more entrepreneurs, to capacitate the public servants, reduce bureaucracy, and to follow projects that benefit from them to calculate indicators of impact in the estates and federal as well which also should help to recognize the success stories. For experts' perceptions the *governmental programs* need as a result of public policies more advertising and distribution to keep increasing the number of support programs.

Ties between local communities, universities, companies and entrepreneurs should become stronger and more developed for the *R&D Transfer* in accordance to the majority of the experts. This tie is an action needed to foster higher-value-added business ventures among nascent entrepreneurs because they will have more access to new technologies and prepared for the research and development environment needed to create new businesses. The experts also considered important to follow successful entrepreneurship stories to motivate others to pursue an entrepreneurial career. In matter of intellectual property for *R&D transfer* it is special issue to foment the protection of knowledge generated through the research and development to exploit in the future the business opportunity like patents.

The authors found a relationship between the proposed actions for *Cultural and Social Norms* and the actions for *Capacity for Entrepreneurship*. For *cultural and social norms* the experts suggested to change the mindset of individuals since they are youth to promote the entrepreneurial culture exposing them to success stories that might motivate them. While for *capacity for entrepreneurship* the some of the suggestions literally mentioned the promotion and creation of an entrepreneurial culture. Adding to *cultural and social norms* the citizen participation is core of the actions needed to impulse the entrepreneurial activity in Mexico. For the case of *capacity for entrepreneurship* experts add to encourage individuals to realize market research before opening new businesses and to promote the planning to avoid failure. Few of the experts said that the requirements of support programs for entrepreneurs should include the review of the experience of the entrepreneur in order to foster the projects with higher opportunities of success.

5. Conclusions

The entrepreneurial ecosystem in Mexico can be successful if the right actions are taken in strategic areas that in the literature review the authors identified as attributes/factors/conditions needed for the development of entrepreneurial activities. Taking in consideration the models of entrepreneurial ecosystems in **table 1**, (Reynolds et al. 2005; Isenberg, 2011; World Economic Forum, 2013;





Stam, 2015), the authors categorized the data collected between 2015 and 2016 from the nine open questions of the NES to assess the quality of the entrepreneurship ecosystem (Herrington et al., 2017) forming 20 different categories. This research cannot determine whether it is a successful entrepreneurial ecosystem or not, but it accomplishes the objective of identifying the main factors that obstruction the entrepreneurial activity, some others that foster it, and finally some actions that can be taken to promote the entrepreneurial activity in accordance with Mexican experts that might result in better public policies. Also, we can conclude now that the five factors described as lowers of business productivity (*Gobierno de la República*, 2013) are well established because the experts' responses meet the criterion of them, but there is enough evidence to add one related with *Government Policies*. The factor of *government policies* must include the role of the regulatory framework, fiscal policy and taxation, and special considerations to match the opportunities for economic competition between new and existing businesses. Efforts to foster entrepreneurship in Mexico should be refocused more on high-value-added growth opportunities of existing businesses and less on encouraging the formation of new businesses (Fabre and Smith, 2003). The authors found that *government policies* play a big role in the entrepreneurial ecosystem because they have the ability to control and improve other factors.



For the case of factors that are obstructing the entrepreneurial activity in Mexico five of the categorized responses were identified as the most urgent which as expected the top one was *Financial Support* followed by the mentioned *Government Policies, Education and Training, Cultural and Social Norms, and Corruption*. In the other side, the top factors fostering the entrepreneurial activity that this research identifies are *Government Programs, Education and Training, Government Policies* also, and *R&D Transfer*. Therefore, as you can appreciate *Government Policies* and *Education and Training* are repeated for both as obstructing factor and as a fostering factor but they appear under different contexts. For the first one mentioned as an obstruction is referred to the bureaucracy involved to accomplish all requirements needed to operate a business like the fiscal policy while the same factor as a foster of the entrepreneurial activity refers to some policies that are working well reducing the bureaucracy for example to open a new business which now requires less time. For *Education and Training* what happened is that for experts there are already good support for entrepreneurship programs in higher education institutions but the evidence shows that learning entrepreneurial skills such as detecting opportunities, management, leadership among others are important and should be taught since secondary levels of education until higher education.



6. Implications

The findings of this research suggest taking in consideration all experts' responses about their perceptions of the entrepreneurial ecosystem in Mexico that a "General Law for Entrepreneurship" must be created to regulate the factors and make it a successful ecosystem. Mexico has a unique

entrepreneurship ecosystem and policy makers must adequate the conditions that may foster the entrepreneurial activity instead of trying to replicate other ecosystems (Isenberg, 2010). This general law should include key points that experts mentioned like the creation of a financial institution for entrepreneurs that reduces requirements to obtain finance and lowers the interest rates, creation of programs for high-value-added entrepreneurship, fiscal policy with special considerations that match the opportunities against informal businesses and well established companies while it attracts the formal economy, and reduction of bureaucracy and corruption at government institutions. Finally, this research was conducted at an individual level of Mexico in general but future research should be done comparing the experts' perceptions by region selecting the cities that contribute most to the Mexican economy to compare if there is a difference and consider adequate state laws like if every city is a different ecosystem.



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