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BUSINESS ECOSYSTEM IN THE UTE UNIVERSITY, CASE STUDY FACULTY OF HOSPITALITY AND SERVICES

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— Abstract—

An innovative project contributes to the solution of social problems, the students are suppliers of business ideas that can become companies. However, in this process, the students are not well oriented towards this end, therefore the importance of accompaniment of the academia, from the conception of an innovative project to the measurement of its contribution in the development of the country. In this role, the university can interact with other agents, integrating itself into a business ecosystem that seeks a sustained growth of the companies born from the student initiative. The objectives of this research are: to set up a business ecosystem for the Faculty of Hospitality and Services of UTE University, and establish the factors that lead to the failure of the projects. The descriptive exploratory method, a case study in this department, was used as techniques: bibliographic review, interviews with teachers and technicians in entrepreneurship. As results, there were identified six possible agents of the ecosystem that could interact in three stages: pre-incubation, incubation and sustainability. The lack of entrepreneurial culture, fear and lack of support highlight as factors of failure that affect entrepreneurship.

Keywords

Business; company; development projects; organizations.

According to the MIF's guide to dynamic ventures, FOMIN's MIC classifies ventures into dynamic and livelihoods where the former is a new or recent business project that has realizable growth potential to at least become a medium-sized business, generating income and growing well above the average for its sector. Survival or self-employment ventures are intended to cover the subsistence levels of the owner and his or her family or to address the specific needs of certain disadvantaged social sectors (MIF, 2007).

A business ecosystem is a community where both organizations and individuals that produce valuable goods and services for customers who are, in turn, part of the same ecosystem, interrelate (Moore, 1993). Parts of the ecosystem include suppliers, leading producers, competitors, among others. An entrepreneurial ecosystem is therefore a place where entrepreneurial activity takes place.

The business projects carried out by students at universities can have uncertain destinies, and it is not known how many projects became companies, how many created businesses closed and which projects remain stagnant due to lack of support or innovation. It is important to accompany students throughout the process. In this context, the academy must interact with other agents, performing in a business ecosystem that encourages sustained growth of companies born from an innovative project.

The purpose of this study is to propose the configuration of a business ecosystem for the Faculty of Hospitality and Services of the UTE University, to determine its possible members, as well as their roles, and to discover those elements that are a reason for the failure of the enterprises. This work is exploratory -descriptive, based on a bibliographic review of business ecosystems. Interviews with professors of this faculty and a technician from the Economic Development Agency CONQUITO are presented, and the information gathered allows the proposal to be made.

DEVELOPMENT

In classrooms, generally, the way to elaborate and evaluate a project is taught establishing its viability. If the indicators of this evaluation affirm that the project is feasible, then the implementation is recommended through the search of financing, in many cases this is where the role of the academy finishes, without realizing that these business ideas proposed by the students need more than an academic methodology to make them a reality, that is, to translate the idea into an enterprise. The current university scenario is not totally focused on that line of training professionals and this is manifested in the orientation of education "about" entrepreneurship and business, instead

of education "for" entrepreneurship (Martinez, Bajaña, Chavez, Guerrero, & Oña, 2016).

The word 'entrepreneurship' is related to the French term *entrepreneur* and dates from the early 16th century. In 1803, Say, in his *Treatise on Political Economy*, defined the individual who directs a company, especially, as a contractor acting as an intermediary between capital and labor (Vicens & Grullón, 2016). Innovation and invention are the key to economic growth determined by entrepreneurs (Schumpeter, 1911).

The knowledge economy is based on the knowledge industry. To understand the concept we must refer to the definition of Eco-entrepreneurship (entrepreneurial ecosystem) as "the study, analysis and explanation of the different complex relationships between institutions and entrepreneurs with their academic, social, political and economic environments" (Camargo, 2011). There is certainly a need to further link academia with business. Well-known firms have their own area of research and development. (López, Blanco, & Guerra, 2009).

At present, innovative low-cost prototypes are being developed in universities, however, there is little relationship between these prototypes, and given that at present one of the challenges for future professionals is the generation of innovative ideas that provide solutions to social problems (Ram, 2017).

In some ecosystems consumers or clients are not perceived as agents, this agent must be analyzed from another approach in which market variables, tastes, preferences and the changes caused by the technological, environmental, economic and political contexts of the country are used (Zalamea & Peña, 2015).

The so-called University Spin Off Companies are defined as the type of companies created to exploit part of the intellectual property generated in a higher education institution. (Shane, 2002). Entrepreneurial activity is measured, in the case of Ecuador, by the Global Entrepreneurship Monitor (GEM), in its 2016 report the country obtained 31.8% in the Early Entrepreneurial Activity (EEA) indicator, being 2.2 times higher than the efficiency economies, in the year 2015 it obtained 33.6%. Despite this, Ecuador continues to be the country with the highest EEA in the region, and the second among the 66 participating countries (GEM, 2016). The degree to which society considers entrepreneurship as a good career option is an indicator of the cultural environment, obtaining 59.51%, which is below its neighbors Colombia 67%, Peru 68% and Chile 66%, the average for the region being 64%. Another interesting indicator is that in Ecuador 43% state their entrepreneurship intention in the next three years, although the fear of failure is a natural impediment with 32% of the population having this fear. When analyzing

the entrepreneurial ecosystem, relevant factors for the consolidation of small and medium enterprises are identified, it is observed that in Ecuador some factors such as financial support 2.86 is below the score of the region 3.42, another factor, government programs, Ecuador 2.68, Region 3.31 (Guaján, Charly, Viteri, & Esteban, 2017).

In the distribution by occupational category according to the entrepreneurial phase, students represent 3.3% in the EEA phase and 4.9% in the emerging phase, low indicators if the comparison is made with part-time occupations only with 14.1% and 20.4%, in the respective EEA and emerging phases. Another important contribution in this study (GEM 2016) is that the indicator of entrepreneurial aspirations contains five pillars for achieving dynamic entrepreneurship (product innovation, process innovation, high growth, internationalization and risk capital) that drop in 2016 to 18.2 while in 2015 was higher with 20.7, which implies that Ecuador has the challenge to promote the creation of dynamic entrepreneurships. With regard to the entrepreneurship ecosystem, the GEM study indicates that the environment in Ecuador until 2015 had remained moderately favorable; however, in the year 2016 there was a deterioration in the evaluation of all the framework conditions for entrepreneurship, even those in which Ecuador showed strengths such as physical infrastructure and higher education. The experts point out as weaknesses the lack of financial support and public policies in terms of regulation, factors that should be prioritized for improvements in the ecosystem in the short term, to solve the weaknesses they should also work on the quality of the ventures and sources of financial support for the various stages of business initiatives (GEM, 2016).

CHARACTERISTICS OF SOME BUSINESS ECOSYSTEMS

There are many cases in the world of how business ecosystems perform successfully, perhaps, the Silicon Valley ecosystem is the best known. It is not an organization or institution, but rather a business ecosystem that feeds back on itself (MIF, 2007), whose structure has the entrepreneur as its main protagonist; around it appear the *University* with a solid contribution in technology, biotechnology and business; the *Government* with its contribution in organized economic structure that favors the entrepreneur; *Flexible work force* characterized by qualified technical talent; *Mentors* or informal networks that contribute with the contact of strategic partners and the generation of important alliances; *Specialized services* that offer consulting, advice in production, design, finance and legal matters; *Financial resources* with offers of financing through seed capital, risk capital and the so-called angel investors; *Diffusion*, that strengthens the ecosystem and accompanies in the diffusion of large businesses.

Madrid Emprende, Economic Development Agency of the city of Madrid, Spain, works its model based on the so-called factors in which the structural conditions (variables) of an ecosystem can be decomposed (Entrepreneurship, Model, & Undertake, 2015). These factors are: *Financial*, among its variables stand out: credit, investment and development of financial markets; *Business* support with the variables: incubators, accelerators and business networks; *Policies*, understood as coming from the State, among its variables stand out: regulatory environment, investor protection, political environment; *Market*, as relevant variables we find the macro environment, market size and business sophistication; *Human capital*, with important variables such as higher education, skilled workers, education and training; *Infrastructure*, with its infrastructure and technological training variables; *R&D*, we highlight the variables: innovation links and knowledge absorption; *Culture*, with its entrepreneurial culture variable. Within the entrepreneurial process, *Madrid Emprende* shows that in the formulation phase of a project there are institutions such as public entities, NGOs, networks of entrepreneurs, universities, which must get involved to develop tools that are currently identified as deficient, among them are: specialized workshops, hackatons, business plan competitions, startup weekends, the application of these tools from these institutions are intended to help potential entrepreneurs to formulate their business idea and develop their business plan.

Camilo Pinzón from *IDI*, says that in order to generate a good entrepreneurial environment, the interaction of what is known today as the quadruple helix: State, Company, Academy and Consumers is needed. These agents will achieve better results to the extent that they can interact in an ecosystem that fosters trust, protection of intellectual property, and generates funding mechanisms for the different stages of a company's development (Pinzón, 2011).

The *Centro de Emprendimiento CdE*, from Ecuador, points out that the recognized drivers to guarantee a Sustainable Dynamic Ecosystem are: innovation, technology and collaboration (Landsdale & Vera, 2008).

The *ICSED-Prodem,* Entrepreneurial Development Program, focuses on measuring the systemic conditions for the emergence and expansion of new dynamic enterprises. In this context, it suggests the application of the so-called Ten Dimensions of the Organization for Economic Cooperation and Development (OECD), in the field of dynamic entrepreneurship: having as central axis the entrepreneurial human capital and around it the culture, social conditions, demand conditions, IT platforms, business structure, educational system, policies and regulations, financing, and social capital.

Ruta N, an innovation ecosystem developed in Medellin, Colombia, leads this process that has generated more than 1,500 jobs related to science,

technology and innovation, with more than 3,300 children in science and technology programs, more than 50 institutions that provide science, technology and innovation services, nearly 700 research groups and 32 universities. As Federico Gutiérrez, Mayor of Medillín, announces, "There is no such thing as a formula to explain what we are living through, but there is a fundamental ingredient to which we can attribute much of what we have achieved as a society: the union between all our sectors. Businessmen, academics, the public sector and citizens, working together and betting on the development of the city..." (Medellín, 2017)

APPRECIATION OF TEACHERS AND TECHNICIANS OF CONQUITO REGARDING THE PROJECTS

Regarding the interviews to know the status of the projects presented by the entrepreneurs, it can be indicated that in the Economic Development Agency CONQUITO, in its Entrepreneurship and Innovation department for the year 2017, 47 projects were managed, of which 20% correspond to the category of *differentiators* that enter an incubation process. Of these projects, 80% are sustained and of this last value 60% are active companies for more than a year after the incubation. In other words, out of every 100 projects managed, 10 projects are innovative and remain as companies for more than a year. Based on this information, there is no follow-up by this agency to know how it continues to perform in the market. According to this technician, the entrepreneurial attitude is what determines the success or failure of a project. The support that the entrepreneur demands from the academy is determined by: the generation of an entrepreneurial culture coming from the professor himself, that the university must be solidly linked to the companies so that the entrepreneur awakens innovation and creativity in favor of the companies, that the results of research that the university carries out are transferred to the improvement of the business performance, that the universities, through a specialized unit, must identify the agents of a business ecosystem and guide the entrepreneurs according to their roles; among other supports: business tutors, advice on legal issues, patents and market research. The Economic Development Agency CONQUITO recommends the following roles that can exist in an ecosystem of dynamic enterprises: support and technical assistance, different forms of financing, regulations, entrepreneurial culture, and human talent with technical knowledge such as engineering, university linked to innovation and business (Ruales, 2018).

In the Faculty of Hospitality and Services of the UTE University, professors of the subjects of Project Development and Entrepreneurship comment that each semester about 15 projects are obtained between the three careers (Gastronomy, Hotel Management and Tourism); it is estimated that in one

year approximately 30 projects are obtained, half of them have an innovative character and at least two are known to become companies, there is no mechanism for monitoring projects after the completion of classes in each semester. In other words, out of 100 projects, six are innovative and become companies, although their performance in the market is unknown.

The structure of an ecosystem would be made up of professors who are related to entrepreneurship, such as market research, finance, legal aspects, alliances with technical careers, contacts with seed capital offers, CONQUITO, Chambers of Commerce and Savings and Credit Cooperatives. The innovations identified in the projects cover recyclable or edible packaging such as rice paper, issues related to environmental care, bakery or artisanal drinks, fruit-based alcoholic beverages, healthy and nutritious products, snacks for diabetics; no major proposals for innovative services are identified other than application projects (App) for tourist routes (Acuña, 2018).

On the basis of these interviews, it can be noted that the Economic Development Agency of the city of Quito (CONQUITO) estimates that of the projects developed, barely 10% become companies, while in the faculty barely 6% of the student projects become reality, in both cases the follow-up[1] is nil or sporadic. The interviewees agree that the determinants of failure are the lack of an entrepreneurial culture. Table 1 shows the status of the projects developed by entrepreneurs in these entities.

Table 1
Status of projects

Interviewees	*Number of developed projects*	*% of Innovating Projects that become business*	*Determining factor of failure*	*Subsequent follow-up*
CONQUITO	47	10%	Entrepreneur attitude	None
Faculty of H&S - UTE	30	6%	Lack of entrepreneurship culture	Sporadic, follow-up to graduates

Source: Made by the authors

In the case of the CONQUITO technician in a business ecosystem, the academy should promote an entrepreneurial culture among teachers, authorities and students, the knowledge produced from research should be transferred to the industry, and students should receive technical assistance in a pre-incubation stage of their businesses.

1 Monitoring involves technical assistance to the entrepreneur and measuring the impact on the local economy.

The teachers recommend that the faculty should know more about public or private institutions that support entrepreneurs, it is also necessary to establish a fund for entrepreneurship and strengthen training issues for students regarding sources of funding (Jimenez, 2018). Table 2 shows the support needed from the academy identified by the interviewees, this information substantiate the configuration of the roles within the ecosystem.

Table 2
Support needed from the Academy

Interviewees	*Within the Business Ecosystem the Academy must support in:*
CONQUITO	• Breeding of an entrepreneurial culture. • Knowledge transfer to the industry. • Directing entrepreneurs according to the roles within the ecosystem
Faculty of H&S – UTE	• Know the related institutions for the support of entrepreneurs • Presence of a venture fund • Training in finance

Source: Made by authors

PROPOSED BUSINESS ECOSYSTEM FOR THE FACULTY OF HOSPITALITY AND SERVICES

Among the business ecosystems cited, there are similarities in their components and roles. The comparison of these elements allows the configuration of the business ecosystem proposed for the Faculty of Hospitality and Services with its potential members, as well as their roles and the definition of relevant support factors to promote a significant flow of dynamic business projects.

The agents that should integrate a business ecosystem in the Faculty of Hospitality and Services are: *The entrepreneur student*, the protagonist, in charge of outlining his or her business idea with innovative or differentiating components. Around him is the *technical commission for dynamic enterprises*, made up of professors from technical fields, such as engineering, markets and finance, who help him design the prototype and test its acceptance in the market. After the validation of the innovative product or service in the market, *the financing and legal system* assists the dynamic entrepreneur to obtain financing, either via seed capital, venture capital, working capital or other forms. This agent can also assist in obtaining financing in the development stage of prototypes and market testing. As part of the ecosystem is the *Economic Development Agency* CONQUITO that can support in the incubation phase, with technical assistance and selection of promising projects for funding management. *Follow-up of graduates,* through its SISEG system, can monitor how projects and companies created from a dynamic entrepreneurship are progressing. In addition, it can be in charge

of developing programs of entrepreneurial culture stimulating entrepreneurial thinking from the first levels of study.

These agents and their roles would be carried out in three sequentially defined stages: Pre-incubation, Incubation and Sustainability, as described in Table 3.

The *Government* also has its responsibility in this challenge since it must dictate policies in order to encourage the generation of ideas, facilitating access to sources of financing to carry out the implementation of promising companies that are sustained over time and contribute to the generation of employment and economic development of the country. Public authorities must locate the individuals or groups of individuals who are most likely to develop innovative initiatives (Fuentelsaz & Montero, 2015).

Table 3

Agents of the proposed Ecosystem for the Faculty and their roles by Stages

Agent ->	Student/ Entrepreneur	Technical commission of dynamic enterprises	Financing and legal affairs system	Economic development agency CONQUITO	Follow-up system to graduates SISEG	Government
Roll ->	Creation of an idea with innovative components /distinctive characteristics	Teachers of technical subjects: Engineering Market Finance They help design prototypes with market acceptance Partnership with the public and private sector.	Guides and manages the financial securing in an accurate way: Seed capital Venture capital Other approaches Attains funding for the prototype design and market test stages.	Technical assistance in incubation stage. Project selection with potential funding pursuit.	Supervising of projects and enterprises born from pre-incubation. Promotes entrepreneur culture. Helps with dissemination and recommends improvement for the ecosystem.	Adequate policies for the promotion of dynamic entrepreneurship. Helps connecting the University, Government and Industry.
Stage ->		PRE-INCUBATION		INCUBATION	SUSTAINABILITY	

CONCLUSIONS

Although, the ecosystems analyzed indicate different components and roles, each structure is configured according to its own needs in the region of influence, it is substantial to first discover the entrepreneurial culture of those who aspire to turn an innovative business idea into a company.

The agents of the ecosystem suggested for the faculty are: the student, technical commission of dynamic enterprises, financing and legal affairs

system, the economic development agency of the city (CONQUITO), the follow-up system to graduates SISEG and the Government. These agents will play their roles interactively in three moments: pre-incubation, incubation and sustainability.

The configuration of a business ecosystem in this faculty is important so that projects with an innovative character are consolidated into profitable companies for the benefit of their mentors and the community in general. The academy must become a provider of knowledge to the industry by offering innovative products from research and development on the initiative of the students themselves.

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