

Title: Education as strategy for global competitiveness: entrepreneurship challenge in Puerto Rico

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Abstract

Studies conducted over the last ten years show the multiple challenges that an administrator faces on designing a sustainable and competitive entrepreneurial environment in Puerto Rico. These challenges encompass a low rate of early-stage entrepreneurial activities (GEM 2007), limited market structure (Cortés, 2006), structural problems (Aponte, 2002), in addition of excessive public debt, bureaucracy, and lack of independent trade (Brooking, 2006).

This study aims to address the unexplained stagnant of entrepreneurial environment in Puerto Rico, even when new venture creation is positively perceived (Aponte, 2002) and indicators point to average or above average conditions, in terms of entrepreneurial potential, capabilities, and intention, compared with other high-income countries (GEM 2007). While there are many qualitative methods available to researchers, a grounded theory approach was preferred for this study. This method intersects disciplines and subjects, providing the opportunity to develop an in-depth understanding of the Puerto Rico's entrepreneurial condition through governmental, private, and civic sectors leaders as well entrepreneurs. Semi-structural interviews comprised of open-ended questions were performed to maximize the opportunity for respondents for free expression while allowing the authors to guide the general direction of the interview. The findings illustrate that a successful entrepreneurial strategy should be anchored in an inter-organizational process that could build up the adequate entrepreneurial mindset through a formal interdisciplinary educational curriculum. Results suggest the necessity of change on traditional business education hub for an

entrepreneurial education that might develop a creative thought as a strategy for a global competitiveness and a sustainable entrepreneurial growth in Puerto Rico.

Resumen

Estudios realizados durante los últimos diez años muestran los múltiples retos que enfrenta un administrador en el diseño de un entorno empresarial competitivo y sostenible en Puerto Rico. Estos retos incluyen una baja tasa de las primeras etapas de actividades empresariales (GEM 2007), una estructura de mercado limitada (Cortés, 2006), problemas estructurales (Aponte, 2002), además de la excesiva deuda pública, la burocracia, y la carencia de un intercambio independiente (Brooking, 2006).

Este estudio tiene como objetivo abordar la inercia inexplicable del ambiente empresarial en Puerto Rico, aún cuando la creación de proyectos nuevos es positivamente distintiva (Aponte, 2002), y los indicadores delinear condiciones de igual o mayor del promedio en términos del potencial empresarial, las capacidades, y la intención en comparación con otros países de ingreso alto (GEM 2007). Mientras que existen una variedad de métodos cualitativos a disposición de los investigadores, un enfoque sobre la teorización anclada fue seleccionado para este estudio. Este método interseca las disciplinas y los sujetos proporcionando la oportunidad para el desarrollo profundo de la condición empresarial en Puerto Rico a través de líderes de los sectores gubernamental, privado, cívico, y empresarial. Entrevistas semi-estructuradas compuestas de preguntas abiertas fueron desarrolladas para maximizar la oportunidad a los encuestados para libre expresión al tiempo que permite la libre expresión de los entrevistados mientras que los autores guían la dirección general de la entrevista. Los hallazgos muestran que una estrategia empresarial de éxito pudiera estar anclada a un proceso interno de la organización que posiblemente construya el esquema mental a través de un currículo de educación formal interdisciplinario. Los resultados sugieren la necesidad de cambio de la educación tradicional en administración de empresas que pudiera desarrollar un pensamiento creativo como estrategia para la competitividad global y el crecimiento empresarial sostenible en Puerto Rico.

Introduction

Studies conducted over the last ten years show the multiple challenges that an administrator faces on designing a sustainable and competitive entrepreneurial environment in Puerto Rico. These challenges encompass a low rate of early-stage entrepreneurial activities (GEM 2007), limited market structure (Cortés, 2006), structural problems (Aponte, 2002), in addition of excessive public debt, bureaucracy, and lack of independent trade (Brooking, 2006). A country's global competitiveness depends on native entrepreneurial factors (Casson, 2003) built within their political, social, and historical context (Reynolds, Hay, & Camp 1999). Entrepreneurs, institutions, and governments play strong and specific roles in fostering a nationwide entrepreneurial climate (Lundström & Stevenson, 2005). This explains why some national economies are stronger and grow more rapidly than others (Reynolds et al., 2002).

In 1994, the Puerto Rico (P.R.) government proposed an initiative to jumpstart native entrepreneurial development. Despite this attempt, reports from worldwide organizations such as the Global Entrepreneurship Monitor (GEM), the World Economic Forum (WEF), and the World Bank (WB) certify that entrepreneurialism has failed to flourish in P.R. For instance, the 2007 GEM report revealed that among high-income countries P.R., at 3.1%, has one of the lowest rates of early-stage entrepreneurial activity, compared to 9.6% for the United States, 10% for Hong Kong, and 26%, 23%, and 27%, respectively, for the low to medium income countries of Peru, Colombia, and Thailand. Likewise, the 2007 GEM adult population perception survey indicates P.R. is average or above average in terms of entrepreneurial potential, capabilities, and intention, but lower in opportunity than other high-income countries. Essentially, the abovementioned studies although; there have been no information that addresses the reasons for the low level of entrepreneurial activity in P.R.

To better our understanding, we performed a qualitative research study based on interviewed with local entrepreneur, civic, private and governmental leaders throughout the Island. We theorize that how leaders perceive the entrepreneurial climate may influence decisions they make and subsequently affect new business start-ups. Our

study endeavors to identify the unique factors that may impact P.R. entrepreneurial environment with the purpose of providing useful information to guide decision makers.

Therefore, a range of relevant literature views entrepreneurship environment it will gain significant relevance to establish education as strategy for global competitiveness.

Theoretical Background

Extensive research has been conducted on entrepreneurship and its effect on national economic growth. While scholars have long recognized a positive relationship between entrepreneurship and economic development; the literature is not entirely consistent, about the factors that drive it. In the case of P.R.'s in hospitable business climate is due in part to the underdeveloped private sector (Davis and Rivera-Batíz, 2006). Aponte (2002) argues that while new venture creation in P.R. is positively perceived, it is not believed to be feasible. A structural problem, she contends, rather than a lack of entrepreneurial spirit, forestalls business creation. Cortés (2006) similarly maintain that the Island's current market structure limits the opportunities presented by globalization and impedes sustainable development and entrepreneurship.

Our review of the vast literature on entrepreneurship focused on how scholars have variously defined and theoretically approached it, is the factors advocated by the GEM (and other) models that affect it and the applicability of such models as a framework for our own work. For this study the main assumption is basically focus on entrepreneurship theory and entrepreneurial environment.

The entrepreneurship definitions have long discussions between researchers. Gartner (1990) found that entrepreneurship scholars held very different beliefs about the nature of entrepreneurship and emphasize very different views of what entrepreneurship, as a phenomenon, consisted. The basic difference between the researchers lies in the popular phrase "it all depends on the lens from which you look" or, as Low (2001) argues it depends on the concepts and proper terms of the field from which it is studied. Researchers such as Reynolds (2004), Gartner (2004), and Shane (2003), among others, can be included within the first group as they consider

entrepreneurship as any attempt to form a new business organization by an individual as based on their characteristics, perceptions, and/or availability to discover and transform an opportunity into something exploitable through an “organization process”. The European Commission (2004) defines entrepreneurship as the mindset and process needed to create and develop economic activity, blending risk-taking, creativity, and/or innovation within a new or existing organization. Those who defend this first concept stress about the theoretical basis of entrepreneurship characterize a process that comes from the individual and not from firms *per sé*.

Contemporary theorists argue that more endogenous constructs could provide the conditions for a successful entrepreneurial environment. They state that investment in research and development (R&D) could produce new knowledge (Romer, 1990). However, new knowledge, in turn, could produce technological changes. Based on that indigenous growth model, identification and exploitation of opportunities might come from constituents that create the knowledge spillover necessary to decide whether to start up a business (Acs, 2009).

The second team of researchers add that entrepreneurship is not solely defined by entrepreneurs, but by the relationships between entrepreneurs, the enterprise, and the environment (Lundström & Stevenson, 2005). Enterprise might be involved in an innovative process within existing firms, new venture creation (Audretsch & Thurik, 2001), or through replication (Baumol et al., 2007); but all with the final purpose of generating economic activities for the development of a sustainable economy (Gartner et al., 2004; Kantis et al., 2002). Van de Ven (1993) has argued that the study of entrepreneurship is deficient if it focuses exclusively on the characteristics and behaviors of individual entrepreneurs without taking into account outside influences. Those external factors may include the economic system; institutional arrangements; the role of government; and legal, political, and social structures, among others (Lowrey, 2003; Lundström & Stevenson, 2005). Within this second group, Birch (1979) concluded that small firms are the major source of employment in the United States. A more recent assessment, however, indicates that small firms are not necessarily the dominant source of net job growth. Instead, it is new entrepreneurial firms, small and

large, that drive it (Acs, Armington, & Robb, 1999). Thus, the issue to be considered is not what Small Medium Enterprises (SMEs) represent in the economy, but the unique role they play in the economy. Carlsson (1999) states about entrepreneurial's SMEs provide the efficiency and dynamics necessary to carry new ideas as well as new opportunities that will increase competitiveness pressures, entrepreneurial growth, and stability. It can reach through the specialization of entrepreneurial's SMEs within different segments to see how they might collaborate with large firms.

A study conducted in thirteen countries by Lundström & Stevenson (2005) establishes a clear distinction between entrepreneurship's definition, foundation, and framework as opposed to what is traditionally known as SMEs. They claim that entrepreneurship and SMEs are not the same because even if they "are inter-related they are very different" (p. 51). Entrepreneurship, according to these authors, is about positively influencing the environment to enable people to move through the entrepreneurial process, beginning with becoming aware of entrepreneurialism as an option and continuing through to the early stages of survival and growth of a firm.

Moreover, Lundström & Stevenson (2005) and Baumol et al. (2007) recognize the role of an adequate set of policies in the emergence of entrepreneurship. They claim about the stimulating entrepreneurial activities requires a different set of policies to support the maintenance and growth of existing business as well as to produce a supply of entrepreneurs. The government and society are responsible for identifying deficiencies and seeking knowledge with better understanding of the situation to establish adequate policies for sustainable entrepreneurial growth (Lundström & Stevenson, 2005). This arguments implies both the country's administrators and its citizens must be educated and informed about the entrepreneurial endeavours taking place and "added value" to the country's economic and social development. Therefore, the media, universities, and organizations should play a fundamental role in a society's education and awareness about the value and support of entrepreneurship.

In a seven-year panel study conducted by Levie and Autio (2007) using GEM expert survey data from 2000 to 2006, researchers found that high-expectation entrepreneurial activity varied from 2000 to 2006. Researchers found that high-

expectation entrepreneurial activity varied significantly and directly with national levels of entrepreneurship education and training. Educational systems around the world became interested in the creation of cultures that would promote enterprise and create new ventures; yet the change that is needed is not just what is thought but how it is taught (Kirby, 2003). Varela (2003) claims that our function as a nation is to educate our citizens within the bounds of ethics and social responsibility to make human beings who are capable of acting independently and innovatively with capacity for achieving goals and taking risks in order to create new sources of wealth and employment. This contrasts dramatically with the traditional “mass-production” education system that has dominated for decades. Inclusive studies such as GEM consider entrepreneurial education fundamental to a country’s economic development and recommend the evaluation and encouragement of creativity, self-sufficiency, and innovation as well the study of economics or entrepreneurship in primary and secondary schools. Gavron et al., (1998) establish in their book *The Entrepreneurial Society* to promote a business culture, also the nations need integrated policies involving collaborations between public and private sectors. These collaborative efforts should encourage educational systems and business support schemes that would increase successful opportunities by mentoring and establishing a supportive network. Casson (2003) argues about the factors like cultural stereotyping, norms, and values impact educational policies, entrepreneur supply and demand, occupational decisions, and hence the global competitiveness.

Research Objectives

This study aims to address the unexplained stagnant entrepreneurial environment in Puerto Rico, even when new venture creation is positively perceived (Aponte, 2002) and indicators points’ average or above conditions, in terms of entrepreneurial potential, capabilities and intention, compared with other high income countries (Gem 2007). Entrepreneur’s understandings of environmental barriers to and enablers of business creation may, we reasoned, effect if, how, and to what extent they

launch new firms. Our study endeavors to identify the unique factors that may impact P.R.'s entrepreneurial environment with the purpose of providing useful information to guide decision makers. At this stage, however, the entrepreneurship challenge is investigated including three major areas; education, linkages and opportunities. For a future project, others areas like leadership, entrepreneurial mindset, financial support, R&D transfer, and business infrastructure will be included so the entrepreneurship challenge in Puerto Rico can be lengthened.

Methodology

While there are many qualitative methods available to researchers, a grounded theory approach was preferred for this study. This method intersects disciplines and subjects, providing the opportunity to develop an in-depth understanding of the Puerto Rico's entrepreneurial condition through governmental private and civic sectors leaders as well entrepreneurs. Semi-structural interview comprised of open-ended questions were performed to maximize the opportunity for respondents for free expression while allowing the authors to guide the general direction of the interview.

Methodologies are “neither appropriate nor inappropriate until they are applied to a specific research problem” (Downey & Ireland, 1979). A researcher's choice of methodology should take into account the research objective, the research question, and the problem to be addressed. As Van Maanen (1979) points out, the choice of research methodology is situated “in the overall form, focus and emphasis of study.” We believe the qualitative inquiry method was well suited to address the subject of this study—the unexplained failure of a sustainable entrepreneurial environment in Puerto Rico. Since this method intersects disciplines and subjects, it provided us with an opportunity to develop an in-depth understanding of Puerto Rico's entrepreneurial environment. We were interested in discerning how key figures in Puerto Rico—entrepreneurs as well as policy makers and influential leaders who may directly or indirectly affect entrepreneurial efforts—perceive the Island's current entrepreneurial movement or atmosphere. Our intent was to gather “rich” data from these individuals

based on their personal experiences and backgrounds as well as their understanding of entrepreneurialism and what it means to them (Babbie, 2007; Maxwell, 2005).

Suddaby (2006) suggests that grounded theory is more appropriate when wanting to learn how individuals interpret reality—in our case how leaders and entrepreneurs perceive the entrepreneurial environment and its socio-economic role in Puerto Rico. Grounded theory emphasizes the observation of patterns in the data that help us to build theories directly from “the actual meanings and concepts used by social actors in a real setting” (Gephart, 2004: 457). Grounded theorists aim to remain “open” to the data by resisting commitment to a prior theory or assumption. The grounded theorist’s commitment to “openness” is also reflected in the data collection process.

The conducted semi-structured interviews comprised of open-ended questions that maximized respondents’ opportunities for free expression while allowing us to guide the general direction of the interviews. Considering the same way, trying to avoid implicit hypothesis-testing and instead allows for inductive reasoning to prevail. Nevertheless, this knowledge implies the possibility of a bias on the part of the author, since a theory-free individual, without expectations when collecting and analyzing data is unrealistic. Two important characteristics of grounded theory are constant comparison and theoretical sampling. Constant comparison refers to the researcher’s continual examination and comparison of data or a simultaneously collected and analyzed process. This implies immediate active immersion in the data rather than its post-collection management. Theoretical sampling also refers to the researcher’s recognition that the data, rather than a prior design decision, dictates when the data collection terminates. Consequently, the size and composition of the sample may be suggested, but not dictated by prior design. Two main principles under the theoretical sampling are appropriateness and adequacy (Glaser, 1967). Appropriateness was achieved by carefully selecting participants who were knowledgeable about the area being explored, while adequacy was addressed by continuing the sampling and coding until theoretical saturation was reached.

Sample

Fifteen organizational leaders in Puerto Rico—five each from the civil, governmental, and private sectors—and fifteen entrepreneurs were selected to take part in this study. The civic, public, and private sector participants were selected through the following process. We identified key agencies and organizations from several available sources, including the Puerto Rico Official Government Web site, which details the government agencies involved in business start-ups, and the P.R. Industrial and Commercial Directory and its respective Web site. Then, relying on the researcher's personal network and experience and those of several business experts, the list was narrowed to twenty-five organizations chosen based on their public intervention in policy matters. From those twenty-five, fifteen initial representatives were identified. Criteria for selection were their business/industrial sector and the geographical area they cover. A careful selection was made to reflect a wide range of knowledge about Puerto Rico's entrepreneurial efforts. Since we were seeking to understand the entrepreneurial environment as perceived by those who have the ability to encourage change in Puerto Rico's entrepreneurial policies, the leaders selected for this study were in top management positions, such as presidents, directors, and executive directors of those organizations with public policy influence. If any one of the first fifteen selected was unavailable, he or she was substituted by another similar and/or related organizational leader. In this manner the total of available organizational leaders that were interviewed was fourteen, including four from the private sector, five from the public sector and five from the civic sector.

Entrepreneurs were chosen from among those mentioned in interviews with the above-mentioned leaders and based on their availability; eleven entrepreneurs were interviewed. The list included both newly established and experienced entrepreneurs. Since these entrepreneurs were named during conversations with the organizational leaders, factors such as industry diversity and the type and/or business size were not controlled. In accordance with the principles of theoretical sampling, which permits decisions about sample size and composition to change during the process of data

collection, a decision was made to extend the sample to Puerto Rican entrepreneurs doing business outside the Island. These entrepreneurs were selected from the Hispanic Chamber of Commerce directory and, because of the information at our disposal and the access to it; all were from the state of Ohio. We later decided to not include those four Ohio interviews in the analysis because the conversations did not fit the study's purpose.

Data Collection

The primary data collecting method was semi-structured interviews that lasted about one hour and were conducted between June and August 2009. Respondents were contacted via phone or e-mail to determine if they were willing to be interviewed. Twenty one face-to-face interviews and four telephone interviews were conducted. All were audio recorded with the permission of the interviewee. The recorded interviews were electronically stored and professionally transcribed. An interview protocol was used to ensure consistency even when the semi-structured methods followed intuitive leads during the interview process (Spradley, 1979).

The interview questions were broad and open-ended to allow respondents to narrate experiences and understandings rather than be questioned solely on specific details (Maxwell, 2005). The questions were aimed toward individual experiences and sought to avoid theoretical or hypothetical assessments. They also encouraged substantial responses from interviewees and allowed them to emphasize ideas and issues most relevant to the events they described.

We began by asking respondents to describe their personal and professional background. This gave us the opportunity to understand how their academic fields, years of experience, and their specializations, for example, influenced each one's perspective and the various issues they discussed during the interview. Second, we asked respondents to talk about the organization or business they represent. This question gave us a broader understanding of the organization's purpose or agenda and the business environment to which each is related. Next we asked participants to

describe a successful entrepreneurial venture they witnessed or experienced firsthand in Puerto Rico during the last five years. The purpose of this question was to identify what the informant saw as the most relevant factors to entrepreneurial success. Thereafter, we asked the participants to describe an unsuccessful venture they directly experienced or witnessed in Puerto Rico during the last five years, with the same purpose, and to help identify the factors they consider detrimental to the entrepreneurial environment. Finally, we gave each interviewee an opportunity to discuss what he or she thinks are the most important factors driving entrepreneurship, negatively as well as positively, in Puerto Rico. This question was meant to provide the interviewees the opportunity to freely express what he or she would do to change the environment in Puerto Rico without limitations, as if with a “magic wand.” One question was added for those Puerto Ricans doing business abroad to explore why they decided to leave instead of remaining on the Island.

Data Analysis

Qualitative data analysis often involves a coding process during which raw data is raised to a conceptual level. We used techniques recommended by Corbin and Strauss conducted open, axial, and selective coding that allowed us to make comparisons between data and, in doing so, derive ideas to stand for the data and develop properties and dimensions of the concepts (Corbin & Strauss, 2008). This kind of analysis involves a process of generating, developing, and verifying impressions by continual comparison of similarities and differences against the next set of data and/or revising previous concepts.

Recordings of the interviews were listened to multiple times and the transcripts read repeatedly in an attempt to develop tentative ideas about categories and relationships (Emerson, Fretz, & Shaw, 1995). The coding process was conducted as soon as the transcribed interviews were available and was accomplished through the use of manual techniques. Using the inductive process followed by the theoretical sampling approach helped us identify relevant concepts, patterns, and themes. Under the theoretical sampling approach we were able to gather follow-up data based on

those relevant concepts and to be more sensitive during subsequent interviews with regard to questions, observations, and listening.

We began by conducting open-coding, a line by line analysis of every transcript to identify “codable moments,” (Boyatsis, 1998) or fragments of text with potential significance. We captured 2,352 such “moments” in the twenty-one interviews. These were compared and assigned to 122 labeled categories. Next we considered the categories independently for each of the two subsets of our sample—leaders and entrepreneurs—nothing first level similarities and differences between them.

During the second phase of coding (axial coding), re-examination of our codes and the text they represented resulted in refining and combining related themes and concepts emerging from the data (Corbin and Strauss, 2008) and moving back and forth between the data and the literature. This process reduced the substantive codes earlier generated from 2,352 to 210 and into 10 labeled categories (Boyatsis, 1998).

Our third phase of analysis involved selective coding such is a process in which the integration of categories and conceptualization moved us from substantive to formal theory. The theory building process allowed us to derive an explanatory framework to describe the phenomenon the participants were explaining and, more importantly, look at the implications and relevance of this theory in more than one substantive area (Glaser & Strauss, 1967).

As part of the above data analysis process, several memos, interview outlines, and notes were written. These memos and notes were constantly reviewed, revised, and organized as data collection and analysis continued.

Findings

The findings illustrate that a successful entrepreneurial strategy should be anchored in an inter-organizational process that could build up the adequate entrepreneurial mindset through a formal interdisciplinary educational curriculum. Results suggest the necessity of change on traditional business education hub for an entrepreneurial education that might promote the creative thought as a strategy for a global competitiveness and a sustainable entrepreneurial growth in Puerto Rico.

Our data yielded three major findings for a global competitiveness entrepreneurial environment in Puerto Rico (P.R.):

Finding 1: Entrepreneurship in P.R. is not opportunity constrained.

A hundred percent of entrepreneurs and eighty-six percent of opinion leaders interviewed believe that ample opportunity for entrepreneurial activity exists on the Island, but is not being exploited. However, a difference exists between the groups regarding specific areas and sources of opportunities. While all entrepreneurs demonstrated they were aware of specific sources and areas of opportunities in P.R., only ten of fourteen leaders did. Six entrepreneurs and two private leaders mentioned knowledge gained from previous job experiences as the primary source of opportunities, whereas civic and public leaders recognized programs developed by organizations and role models as a potential foundation from which entrepreneurialism starts. Regarding areas of opportunities, entrepreneurs, private and civic leaders cited many different of them; but three of five public leaders focused on the high technology industry as the current major area.

Entrepreneurs and opinion leaders mentioned various reasons for why entrepreneurial opportunities are not capitalized. However, employee mentality—as opposed to entrepreneurial mentality—and the lack of necessity developed by an economy primarily sustained by foreign Multinational Companies (MNCs) are the only two reasons on which members of all interviewee groups agree. **Table 1** on page fifteen illustrates some of the opportunities respondents referred to and also the barriers recognized by them.

Table 1: Examples of Opportunities and Barriers Identified by the Same Responder

Interviewee	Opportunities	Barriers
Entrepreneur (15), page 9	"All of the elements are in place for them [corporate managers] to do things differently. It's a platform ready for <i>outsourcing</i> . They are very capable people."	"They [corporate managers] don't have that entrepreneurial spirit... For P.R., thirty years of receiving products without having to fight for them [because of Section 936] created a <i>comfort zone</i> where they don't feel like doing things differently..."
Entrepreneur (15), page 8	"If you look at the value of a manufacturing project in all of the stages that it passes, you could create thousands of businesses because we have <i>experts</i> on the inside...and those people can go outside...and create more value through service."	"Look at <i>education</i> . For example, in my MBA, they never talked about entrepreneurship. From 1993 to 1997, they taught me about business, but more about how to work within a company and rise up as a manager in the company. But the fact was [I was educated] to be a worker, not an entrepreneur. There wasn't [entrepreneurial] preparation or an ecosystem"
Entrepreneur (15), page 8		" <i>Industrialization</i> didn't create the <i>necessity</i> for high impact entrepreneurship"
Private Leader (5), page 7	"An opportunity was provided to utilize <i>technological knowledge</i> along with education, and I took advantage of it."	"I think this is an area filled with <i>opportunities</i> that P.R. has not been successful in utilizing."
Entrepreneur (12), page 3	"We started to penetrate there, not only [for use] in P.R., but also as the setting for the laboratory...and that <i>market [the healthcare industry]</i> moves a large amount of capital in the U.S."	
Entrepreneur (16), page 12	"There are several products that we can develop using <i>agriculture</i> that could help create jobs or keep the jobs we already have."	"Government <i>lost its vision</i> at some point and abandoned it... They were more focused on development that gave incentives to <i>foreign industries</i> ."

Finding 2: Network deficiencies among entrepreneurial stakeholders---entrepreneurs, government, and organizations---constrain the spread of entrepreneurial environment in P.R.

Eighteen interviewees, representing more than seventy-five percent of each group, discussed the necessity to create alliances and linkages among those organizations that work with entrepreneurship in P.R. But, while private and public leaders were more emphatic about the problem itself, entrepreneurs and civic leader were more aware of the solutions.

Three private and four public leaders exposed the problems they confront every day to encourage P.R.'s entrepreneurial environment, from the lack of links among governmental agencies, private and civic organizations responsible for entrepreneurship on the island. Those leaders attribute the situation to the organizational structures and

small interest groups. Most entrepreneurs and all of the civic leaders saw the creation of formal alliances and the strength of organizational linkages among groups as the main solutions. They emphasized on the need to create interdisciplinary and inter-organizational alliances between the government, private and civic organizations, universities, and entrepreneurs as part of a new national entrepreneurial strategy model. They claim alliances could promote an innovative environment, open up communication, and enhance local business opportunities at the global level, among other benefits. **Table 2** shows examples of the aforementioned claims on page seventeen.

Table 2: Network Deficiencies among Entrepreneurial Stakeholders

Interviewee	Quotes
Governmental Leader (9), page 6-13	“Because it requires integration...within these [governmental] institutions...we now have an organizational structure from the governor on down, which is greatly decentralized...in term of function and collaboration between institutions. Thus, it’s a titanic and very political...because each party has its own ‘little farm’ and its own group interests.”
Governmental Leader (9), page 20	“A cohesive group is crucial for economic development.”
Civic Org. Leader (2), page 10	“What we need to do is strategize with the universities and the private sector to work toward entrepreneurial development. To do that we must break the kiosk mentality in which each one wants control and are looking to grab the other’s prestige and respect.”
Private Org. Leader (5), page 8	“They [organizations] are thinking a lot in terms of their group condition and not in terms of the country’s condition”
Entrepreneur (6), page 10	“To move forward with entrepreneurship... [we need to] search for a country agenda...create it in a way that clearly establishes the role of each sector involved... but to do that there must be collaboration among all parties, there must be mutual trust, but no one here trust anyone”

Finding 3: The limited formal entrepreneurial education linkages restrict the development of a competitive entrepreneurial environment in Puerto Rico

Twenty of twenty-one respondents are aware that the country’s lack of formal entrepreneurial education is a limitation for entrepreneurship in P.R. Even when members of all groups recognized the necessity to make changes on educational curriculum, private and public leaders are the groups who mentioned that, as the most urgent requirement for the entrepreneurial environment. On the other hand, successful entrepreneurs recognize their entrepreneurial education experience as key factor for their success. Inclusive four of them narrated the process of self-education on business

and entrepreneurial issues as a key step for their business starting process. They mention that even when they had their respective field knowledge the absent of entrepreneurial education was a deficiency recognize by them. Four of five civic leaders point out the great amount of short term entrepreneurial educational programs that include seminars, individual consulting service for starting a business as well as others matters like financing options and requirements. However, members of all groups recognize the limited formal linkages among university, government, private and civic organization as a barrier for the local entrepreneurial flourish. Three civic leaders and entrepreneurs' affirm concerning the entrepreneurial education could be a source of opportunities for entrepreneurship in Puerto Rico. Among the benefits they mentioned are the entrepreneurial education open the mind for new things, help the self-confidence and provide the tools for innovative thought development. Nevertheless, four entrepreneurs, two private leaders and three public and civic leaders mentioned the employee mindset created by the rapid industrialization process with foreign direct investment as a barrier for the development of an entrepreneurial mindset. **Table 3** shows quotes on the aforementioned condition expressed by responders.

Table 3: Necessity of a Formal Entrepreneurial Education

Interviewee	Quotes
Entrepreneur (15), pages 10-11	"We need to make like in Israel. They took private equity to created an entrepreneurship center...almost like a university of entrepreneurship...I'm sure if we create that academy, we will get entrepreneurs to create business with 50 or 60 employees each. Then already it's more productive than the person picking up pennies."
Civic Org Leader (3), page 11	"Thinking in long-term, government and educational institutions should establish collaborative linkages in a way that could provide formal entrepreneurial education for anyone since primaries grades....needs to show the importance of entrepreneurship"
Private Org. Leader (5), page 16	"In the schools teach us a lot...but it's not being taught that you can study to create a business and you are going to work for yourself...those areas of entrepreneurship are not cultivated. We should dedicate more time early in the school process in creating that business culture...it's planting the seed."
Governmental Org. Leader (10), page 6-8	"To work in the future, we have to educate those that are in the system now...the way of teaching should engage the imagination and the problem solving. This is extremely important for entrepreneurs...thus; education has to be restructured at all levels."
Entrepreneur (15), pages 6-12	"The most importance factor for entrepreneurship is education. It's what gives you the confidence that you can do it...But the fact is that the education is to be 8 to 5 worker, not an entrepreneur...I think that university should change into an entrepreneurial focus"

Conclusions

Horizontal and vertical linkages are essential for an entrepreneurial environment. The results suggest concerning the entrepreneurial network agent misalignment in Puerto Rico hinders the full development of business opportunities. That lack of coalition is essentially caused by small group interests and deficiencies in organizational structures. Ostrom's (1990) institutional theory of collective actions presents an alternative to the problem of how to motivate groups, with seemingly interdependent interests and situations, into becoming an organized, self-governed entity. Considering Ostrom's theory, institutions can sustainably and continually benefit without detrimental temptations such as free ride, shrinkage, or acts of opportunism. Considering the actual deficiency of networking among governmental, private organizations and entrepreneurs, establishing a formal entrepreneurial structure is recommended as a strategy to advance the local business environment. The formation of those formal linkages would help to foment the union of efforts and resources within entrepreneurial stakeholders. The challenge is to obtain a genuine commitment from each part's members maintaining a focus on the goal and in the mechanisms that were used to obtain it (Ostrom, 1990).

The results of our study claim the creation of a joint entity for setting the clear roles for each entrepreneurial stakeholder. Also, they should operate with a goal to increase and expand local entrepreneurship as part of a collective conscience about the country's well being. Such collaborative networks could provide the interaction necessary for technological knowledge transfer, organizational practice, and tacit knowledge that tends to stay within a complex system (Spencer, 2008). Collaborative efforts should advance educational agendas that would increase the probability to launch successful entrepreneurial activities through mentoring and supportive networking.

In a way to achieve this goal, individuals' relationships and institutional linkages are necessary. The framework presented by Tiessen (1997) implies the feasible attainability in a different way based on the national cultural orientations. He states that

the entrepreneurial functions tend to vary between individualism and collectivism culture. Furthermore, the challenge is not the cultural orientation, but how individuals and organizations manage the resources and innovative efforts through contingent teamwork, pragmatic alliances, contractual links and relational ties, among others.

Previous studies suggest that Puerto Rico is a collectivist society (Hofstede, 1980). Nevertheless, a more recent study shows that it could be a specific “self-ingroup,” not necessarily affecting all ingroups (Triandis, Bontempo, Villareal, Asai, & Lucca, 1988). Taking into account that point of view, Puerto Rican entrepreneurs could be considered as an ingroup based on their mutual goals, joint organizations, and shared environment. However, the results suggest that there are no ingroups behavior among them. Although they recognized each one, and organizations exist should unify their relationship, the linkages developed between them are very restricted. Such fragile networking, the study suggest is the result of an entrepreneurship environment dominated by lifestyle entrepreneurs who think about their self-benefits, not the group or country’s well-being. Opposed to that point of view, those who have an entrepreneurial mindset have a sense of responsibility about what happens around them and also tend to cultivate a collaborative and solidary environment as an imperative entrepreneurial strategy. Literature on Network Theory claims that the collaborative networks that entrepreneurs were able to create are critical to innovation and technological development, start-up, and businesses continuity (Hoang & Antoncic, 2003).

Guiso, Sapienza, & Zingales (2006) find that prior beliefs, values and preferences are constructs will directly impact economic outcomes. Cultural capital, or the mindset such as attitudes, values, aspirations and sense of self-efficacy, may influence the individual behavior and the decision-making process over time. The research findings suggest to facilitate the process to build a strong entrepreneurial environment, a change on a cultural mindset through formal education might be a key piece to the puzzle. To improve the entrepreneurial strategic position, idiosyncratic changes are essential; and

our study suggests that formal education should help to address that individuals' mindset of value and support of entrepreneurship. That's implies the creation of an entrepreneurial culture through formal education. However, intergenerational education, role models and beliefs also would play an important role to move from an "employee" to an "entrepreneurial mindset"

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