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## **An Ecosystem Approach for SME Expansion: The Case of “Grow your Business” in Puerto Rico**

Assisting existing Small and Medium Size Enterprises (SMEs) in successfully implementing expansion plans to maintain or create jobs is a challenge in itself and more so in the midst of a recessionary economic environment. Research suggests that an ecosystem approach has a better chance to be effective when various entrepreneurial advocates aspire to promote job creation by enabling SMEs in carrying forward their business expansion plans. The Grow Your Business (GYB) initiative was conceptualized as an inter-organizational collaborative project between three entrepreneurial advocates to promote job opportunities for low income job seekers in the western region of Puerto Rico by assisting existing enterprises develop and execute feasible expansion plans. GYB partners delivered business acceleration services to 29 SMEs throughout a 30 month period which included capacity building to owners, individualized technical assistance and access to financing by means of an ecosystem approach intervention model.

This quantitative research assessed by means of a survey to owners of firms completing the program their rating of the various interventions by the collaborative founders and their colleagues on firm performance. Research questions where: (1) How effective was the formal inter-collaborative support in order to supply entrepreneurs’ needs to achieve their business expansion plans and insertion in the entrepreneurial ecosystem? (2) Which is the economic impact of the formal inter-collaborative project between entrepreneur’s support organizations in terms of retention and creation of jobs and private or personal investment in businesses with expansion plans?, and (3) How do entrepreneurs appraise in terms of utility for their business consolidation and expansion plans, the assistance provided in the three stages of the project: capacity building, individual technical assistance and implementation financing? Analysis of the obtained data set seems to sustain the hypothesis that creating a sustainable growth business environment requires more than just offering access to capital, training, mentoring and /or support by fragmented players. It requires an ecosystem approach that includes a firm business support network based on a well-coordinated program that can supply to the entrepreneurs more than the offer of the individual partner, but rather the synergy of them.

### **Introduction**

Encouraging local entrepreneurs to move forward in the development of their small or medium sized (SME) business is a worldwide challenge and Puerto Rico is not the exception. Studies show that at the decision moment, in order to grow their businesses, most entrepreneurs unfortunately decide to remain as they are (status quo) or fall into the out of control growth, due

to the lack of knowledge, support, and or resources, among other things.<sup>1</sup> The Small Business Administration (SBA) annual report of 2011 shows that only 69% of new businesses survive the first two years, even worst, only a 51% and a 34% in their fifth or tenth year, respectively<sup>2</sup>. This is worrisome because statistics show that businesses failure increases as years go by and in Puerto Rico as elsewhere the expansion of existing SMEs may represent a viable option to retain or promote new jobs and economic growth in the short and medium term (Lozada and Vega, 2013).

A well-concerted entrepreneurial environment that may provide support to firms that have progressed beyond the startup phase in those weak areas identified by researchers and entrepreneurs – such as: knowledge, support, resources and contact, among others- can be the difference at the decision moments of the entrepreneur to address their business growth needs or remain at the status quo. However, in the case of Puerto Rico, previous research reflected that local entrepreneurs expressed that they knew about local organizations that provide services and resources that are necessary for them, but the lack of formal inter-organizational networking among those institutions resulted as a barrier in their entrepreneurial journey (De Hoyos-Ruperto, Romaguera, Carlsson, & Perelli, 2012). Furthermore, a quantitative study showed that the lack of formal inter-organizational networking between organizations that are created to assist entrepreneurs have a negative impact in their firm's performance (De Hoyos-Ruperto, Romaguera, Carlsson, & Lyytinen, 2013).

Therefore, it is reasonable to argue that to conceptualize and develop a model that in practice will effectively enable existing firms with potential for growth to consolidate their

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<sup>1</sup> <http://usgovinfo.about.com/od/smallbusiness/a/whybusfail.htm>

<sup>2</sup> Source: U.S. Dept. of Commerce, Census Bureau, Business Dynamics Statistics; U.S. Dept. of Labor, Bureau of Labor Statistics, BED

operations and successfully expand will significantly contribute to practice and theory of SMEs development. Identifying players, actions and policies at the macro level and internal factors that could successfully encourage an entrepreneurial mindset among citizens and empower entrepreneurs to attain growth by a systemic approach is an important policy aspiration (Santiago and Vega, 2007; Romaguera and Vega, 2010).

Within this context, this paper summarizes the results of research that attempts to examine the economic impact, in a controlled group of 29 established businesses that were formally backed in a collaborative way for almost 30 months by three organizations that provide support to entrepreneurs in a project called “Grow Your Business (GYB).”

The GYB project was a formal inter-organizational collaborative project among three entrepreneurial advocates’ organizations to assist entrepreneurs in their business expansion plans (BEP). Even though each supportive organization carried out a specific component in the project, based in their expertise, the interconnection between them allowed that each of them intervene as necessary during all stages of the project.

This type of formal collaborative approach between organizations that support local entrepreneurs resembling an entrepreneurial support ecosystem is rare in Puerto Rico, and because of it; we have taken the Grow Your Business as a case in point in order to ask ourselves the following questions: (1) How effective was the formal inter-collaborative support in order to supply entrepreneurs’ needs to achieve their business expansion plans and insertion in the entrepreneurial ecosystem? (2) Which is the economic impact of formal inter-collaborative project between entrepreneur’s support organizations, such as Grow Your Business, in terms of retention and creation of jobs and private, personal investment in businesses with expansion plans?, and (3) How do entrepreneurs appraise in terms of utility for their business consolidation

and expansion plans, the assistance provided in the three stages of the project: capacity building, individual technical assistance and implementation financing? We hypothesized that the relationship among inter-organizational entrepreneurial advocates is crucial to trigger entrepreneurs into their next business level.

Our data suggests that creating a business environment conducive to sustainable growth requires more than just offering access to capital, training, mentoring and /or support by fragmented players. It requires an ecosystem approach that includes a firm business support network based on a formal and well-coordinated program through entrepreneurial advocates that can supply the entrepreneurs' needs with their synergy in terms of knowledge, resources, and networking, among other things.

## **Literature Review**

### **Inter-organizational Networking**

Entrepreneurship is an “inherent networking activity” (Dubini & Aldrich, 1991: 306) and entrepreneurs are actors and/or coordinators of resources in a specific context (Aldrich & Zimmer, 1986; Hébert & Link, 1989). Entrepreneurship is not solely defined by entrepreneurs. It is also defined by the relationships between entrepreneurs, the firm, and the environment (Lundström & Stevenson, 2005). Among the external factors that may impact the entrepreneurial environment are arrangements with and within institutions (Lundström & Stevenson, 2005; Lowrey, 2003; Rodrik, 2007; Shane, 2003). Internal and external factors of firm can positively or negatively influence the overall firm activities depending on the inter-organizational relationships between institutions (Rodrik, 2007).

Several hypotheses exist regarding the role and affect of networks on a supportive business environment. For example, the network success hypothesis states that network support increases the probability of survival and growth of newly founded businesses (Brüderl & Preisendörfer, 1998). The network compensation hypothesis asserts that networks compensate for shortfalls in other types of capital, such as human and financial (Light & Karageorgis, 1994), and the network founding hypothesis claims that “network resources, networking activities and network support are heavily used to establish new firms and thus, social networks stimulate entrepreneurs” (Burt, 1992: 36).

Coleman (1988) suggests that networks facilitate market exchange and provide insurance and resources to achieve individual goals. In general relationships are used to get advice and resources (Granovetter, 1985; Johannisson, 1988; Hansen, 1995) as well as information, knowledge, access to distributor channels, help, and support (Klyver & Bager, 2007) and they serve as a source of opportunities (Burt, 1992). Professional networks such as advisors, partners, mentors, customers, buyers, and employees may add valuable resources such as credibility, reputation, and legitimacy (Klyver & Bager, 2007).

However, the literature is not clear, about the development and composition of an efficient network structure conducive to a supportive environment for entrepreneurship (Greve & Salaff, 2003). In the case of Puerto Rico, the gaps on the entrepreneurial environment reported by worldwide research efforts such as the Global Entrepreneurship Monitor Report of 2011 (GEM, 2011) and the World Competitive Report of 2013 (Schwab, 2013) might occur from the lack of a well-coordinated business support network between the institutions with the potential to assist entrepreneurs and provide them with an optimum support (De Hoyos-Ruperto, Romaguera, Carlsson, & Perelli, 2012). Thus, an inter-organizational support network could

either act as a positive “bridge” that effectively assists firms or as a negative “black hole” that drains entrepreneurial spirit and effort (De Hoyos, 2013). Based on the aforementioned literature our first hypothesis is as follow:

**H1: The formal, well structured, inter-organizational collaborations among entrepreneurial advocates will be positively related to firm’s growth.**

### **Capacity building to SME Owners**

Varela (2011) shows that the entrepreneurial education that has a successful effect on a firm’s performance is the one that can impact entrepreneurs’ competencies and specific target-groups like business in growth process. Therefore, people who are in charge of entrepreneurial training need to be aware about the difference stated by Jamieson (1984) on the entrepreneurial education content for an “about” enterprise (i.e. awareness creation), “for” enterprise (i.e. the preparation of aspiring entrepreneurs for business set-up), or “in” enterprise (i.e. growth and development training for established entrepreneurs). In the case of “in” enterprise the entrepreneurial education focuses on developing higher levels of owners self-efficacy in marketing (i.e. set and meet market share goals, establish positioning, product market and market analysis) and management (i.e. strategic plan, establish and achieve goals and objective) may achieve a better firm performance (Bratkovič, 2012). However, we need to consider that the improvement in the firm’s performance is not only tied to education and its content alone, but to the support network that has the entrepreneur during his or her educational process. Support network of the entrepreneurs in relation to educational information may be the difference on their firm’s performance (Bratkovič, 2012). Because, entrepreneurial education training across formal inter-organizational collaborations will provoke partnerships, share of experiences, information and knowledge, among other things (De Hoyos-Ruperto & Figueroa-Medina, 2011). This type

of formal collaboration can meet the entrepreneur needs and enhance their entrepreneurial competencies to make business growth more feasible. Based on the aforementioned literature our second hypothesis is as follow:

**H2: The capacity building to SME owner across formal inter-organizational collaborations will be positively related to firm growth.**

### **Individual Technical Assistance by an Incubator**

Studies show that the firm performance may increase significantly when the owner get individualized support of consultants and peers (Arteaga, 2009). Arteaga & Lasio (2009) stated that incremental performance is more significant when that advising and networking is to plan new actions and address businesses challenges. Hence, the incubator assistance to develop new project and plans and the networking support around the incubator is seen as very relevant, as well its infrastructure, for the early stages of business development, however become less important as entrepreneur advance into late stages of their venture process (Storopoli, 2013). On later stages, more individualized business support services to accelerate growth that are less dependent on the traditional incubator arrangement of common space and shared overhead cost drivers such as clerical staff may be required to assist firms in addressing their very particular challenges and opportunities (NBIA, 2010).

According to Dennis Powell, senior writer of the National Business Incubation Association Review, to effectively cope with the very diverse needs of clients beyond the early stage company formation incubators are more frequently than ever entering into formal inter-collaborative relationships with universities, frequently with more than one simultaneously, and with development organizations, both private and public, with complementary expertise and connections networks. In line with evolution in the industry, incubators nowadays have resident



and affiliate clients and engage in direct and virtual format of delivering assistance (NBIA, 2013).

Nationally, SMEs have reported as an area of major concern with a high degree of consensus the handling business growth and the uncertainty of economic conditions and governmental regulations (NFIB, 2012). Therefore, incubators should focus on the national and local internal success factors such as, in the case of Puerto Rico, the level of education and ethnic origin of owners, years in operation, business partners, parent's profession, and diversification by type of clients (Carrero, 2013) to address their goals. Additionally, incubators must consider that among local firms in Puerto Rico promoting growth and diversification by exporting depended significantly on owners access to pertinent information, linkages to mentors with exporting experience and entrepreneurial advocates that could lower risk (Ortiz, 2013) and that research show that a high proportion of owners lack formal education on business administration (Vega & Romaguera, 1995; Sanchez, 2013. Based on the aforementioned literature our third hypothesis is as follow:

**H3: The technical assistance across formal inter-organizational collaborations will be positively related to firm growth.**

### **Seed Funds**

The concept of seed funding entails obtaining initial capital, sometimes rather small amounts, that serve to facilitate access to more funds or other types of economic resources. Access to capital together with business development, market entry and commercialization services is consider one of the pillars of an entrepreneur assistance program (NBIA, 2013). It is generally expected that seed funding will have a multiplier effect and encourage eventual financial growth for the firm and expand its possibilities for access to financing which in the case

of SMEs are limited (Vega & Romaguera, 1995; Montalvo, 2013). Even in the case of incentives expressly developed to improve the financial assistance alternatives for SMEs such as those of Law 73 of 2008 (Economic Incentives Law for Puerto Rico Economic Development) seem out of reach for owners without specialized help to sort out the governmental bureaucracy and seed funding (Irizarry, Amador & Frontera, 2013). Other incentives seem to be equally difficult to access as a leader of a local small business advocacy trade association stated with respect to Law 52 of Payroll Subsidies in a recent interview when saying “small business owners lack the resources to effectively identify and comply with the requirements of the existing incentives in a timely manner like big business. As a result, when they finally submit their applications the funds has already been allocated to big businesses” (El Nuevo Día, 2013). Based on the aforementioned literature our fourth hypothesis is as follow:

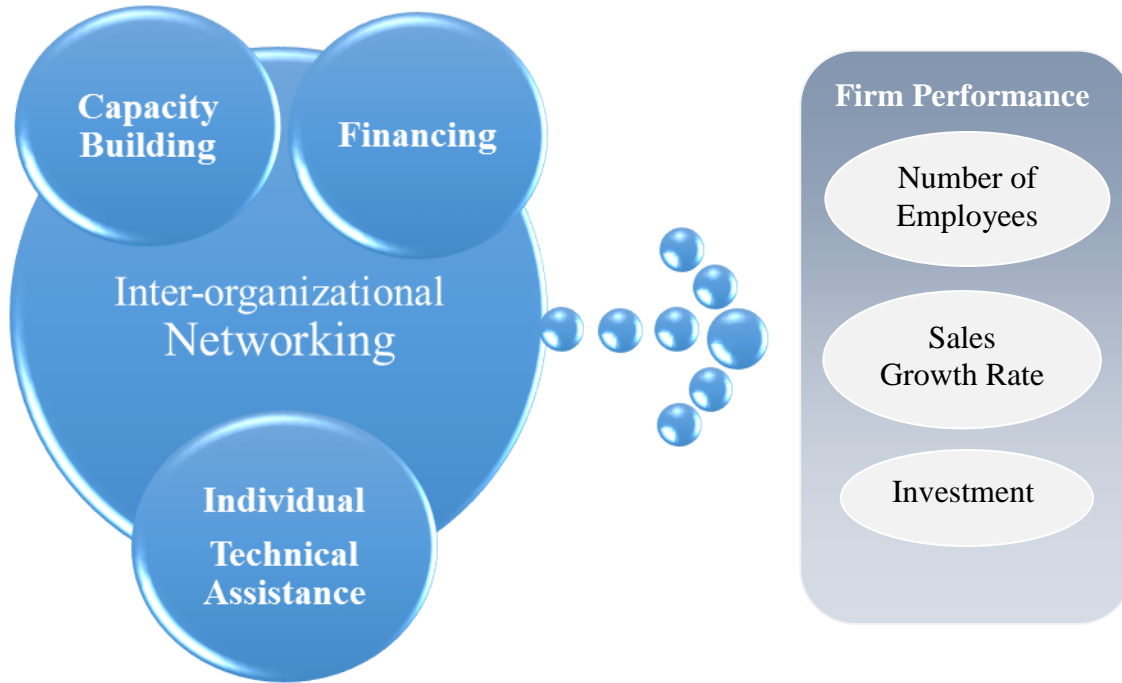
**H4: The seed funds provided across formal inter-organizational collaborations will be positively related to firm growth.**

#### **Firm Growth as the Outcome**

This study measures firm growth based on the financial performance of the business. Financial measures, efficiency, growth, and profit were the most commonly considered dimensions (Murphy et al, 1996). This research uses metrics relevant to incubators impact such as sales growth rates, increases in the number and retention of employees and additional investment to assess the firm performance (Meredith, 2007) in approximately one year after their participation in the GYB program through a primary data source—questionnaire—.

Based on the abovementioned literature our conceptual model is shown in Figure 1.

**Figure 1: Conceptual Research Model**



### **The Case: Grow Your Business in Puerto Rico**

There are widespread desires in P. R. to move entrepreneurship from “efficiency-driven” to the “innovative-driven” stage of development. Innovative-driven stage is the third stage of economic development identified by Porter (2002) and it is marked by an increase in knowledge-intensive activities focused on the new knowledge of agents. Aspiration of agents is the key of this stage because, among other things, their entrepreneurial aspirations might be the difference regarding to start a new firm, develop a new product, service or processes, penetrate foreign markets, substantially increase the number of firm employees, as well as aspire to a business growth (Acs & Szerb, September 2010). It is in that area of entrepreneurial aspiration, as previously defined, that P.R. is below the expected on the 31st position out of 40 (Acs & Szerb,

September 2010). This study published by the SBA Office of Advocacy in the 2010 categorized P.R. as a country that should be in the economic development stage known as “innovation-driven.” However, their results showed that P.R.—at number 17 out of 40 countries surveyed—had not exploited its full potential and specified that institutions need to be strengthened before entrepreneurial resources can be deployed to drive innovation (Acs & Szerb, September 2010).

The results of the WEF 2013 demonstrates that P.R. entrepreneurial environment still have structural challenges to face (Montalvo, 2013), similar to those detailed by the Global Entrepreneurship Monitor (GEM) in the 2007. The GEM 2007 report found that among high-income countries P.R., at 3.1%, has one of the lowest rate of early-stage entrepreneurial activity. At the present time surveys are being conducted for the 2013 GEM edition but results are not expected to differ substantially from those previously reported.

As previously depicted a study about the entrepreneurial environment in Puerto Rico showed that the lack of inter-organizational networking among the entrepreneurial advocates has a negative effect on the firm’s performance (De Hoyos-Ruperto, Romaguera, Carlsson, & Lyytinen, 2013). Ongoing research by the authors and their personal experience as entrepreneurship educators and business development practitioners suggest that an entrepreneurial ecosystem approach may work best when key entrepreneurial advocates delivers business support services to ultimately promote job retention and creation in existing or emergent enterprises (Lobato & Vega, 2013). Moreover, international literature also seems to point out that in order to optimize existing resources and maximize impact an ecosystem approach is superior to the individual fragmented efforts of entrepreneurial advocates to deliver business support services in a coherent and synergistic manner (De Hoyos, 2013). As depicted

later on in the methodology section entrepreneurs are the best judges and their results the best metric for determining the success of this approach.

Grow Your Business (GYB) project was a formal inter-collaborative initiative between three main entrepreneurial advocates in the Western Region of Puerto Rico—Partners for Community, Inc. (PfC), the Puerto Rico Techno-Economic Corridor, Inc. (PRTEC) and the Business and Economic Development Center (BEDC) of the University of Puerto Rico-Mayaguez Campus (UPRM).

PfC is a Massachusetts based non-profit corporation and with a branch office in Mayaguez, Puerto Rico. PfC was the project leader and administrator of a federal grant by the Federal Department of Health and Human Services to implement the formal inter-collaborative initiative. It has extensive experience in the creation of new jobs through economic development and training programs. PRTEC, on the other hand, is a non-profit organization established in 1999 that integrates industry, academia, and government in efforts to promote economic development with a focus on innovation and high technology industry in the Western Region of Puerto Rico as depicted in their webpage at [www.pртеconline.com](http://www.pртеconline.com). The BEDC is a technical assistance program housed in the Business School of the UPRM Campus with a track record of over two decades of supporting entrepreneurship education and development through customized curricula and tools that include its proprietary business development handbook titled How to Start, Develop and Administer a Small Business in PR (See details: [cnde.uprm.edu](http://cnde.uprm.edu)).

Other pertinent collaborators were to be integrated to the effort by the three main partners as needed. The purpose of GYB project was to assist a minimum of twenty (20) existing local businesses of the “Porta del Sol” region in their business expansion plans, in order to create at least 76 new, full time, sustainable jobs occupied by TANF recipients and other low-

income individuals (JOLI) that will lead to economic self-sufficiency and reduced welfare dependence for beneficiaries and their families (JOLI Project Proposal, 2009). The “Porta del Sol” region, in the western part of Puerto Rico, consists of 17 largely rural towns, centered on the municipality of Mayaguez. At the beginning of the GYB project in 2010, the unemployment rate for the region was 14.0%, whereas 53.6% of the local population had incomes below the poverty level. Also, the recession being confronted by the Island was in full effect at the beginning and up to date serving a challenging scenario for achieving job creation goals of the project.

During 30 months (from March 2010 to the end 2012) two groups of 20 entrepreneurs each, were trained and assisted both individually and as a group, in developing and implementing their business expansion plans (BEP). Also, the project had a small fund to catalyst financing for launching their BEP as the entrepreneurs successfully finished the two first stages of capacity building to SME owners and technical support. BEDC, PRTEC and Pfc worked together in three specific areas with each of the participants, according to their area of expertise and resource; but in a coordinated and collaborative way, as depicted in formal agreements that serve as foundation for implementing the ecosystem approach and supported by the three collaborators during whole project. This makes the GYB project an innovative model in order to assist, and guide entrepreneurs directly in their needs, with a coherent entrepreneurial ecosystem through a group of formal inter-organizational collaborators. It should be noted that according to the external evaluator 29 businesses completed the three phases of the project and reported 75 jobs created or retained plus one additional position for the project coordinator complying with the goals established in the proposal that gave birth to the initiative (Weiss, 2012).

GYB intervention components and support ecosystem were as follow: The BEDC carried out the first component of the project consisting of delivering a customized curriculum

through weekly meetings that lasted for two months that entail as a final outcome of the group and individual coursework the drafting of a preliminary business expansion plan (BEP).

Capacity building to SME owners were in subjects like marketing, human resources, permits, and financial projections and financing sources, among others. Also, the organized seminars in coordination with government agencies such as: the Permit Management Office (OGPe), Department of Labor and Human Resources (DTRH) in order to clarify laws and regulations. The offered an average of 180 (one hundred eighty hours) of group and individual coaching for capacity building to entrepreneurs for the development of their BEP.

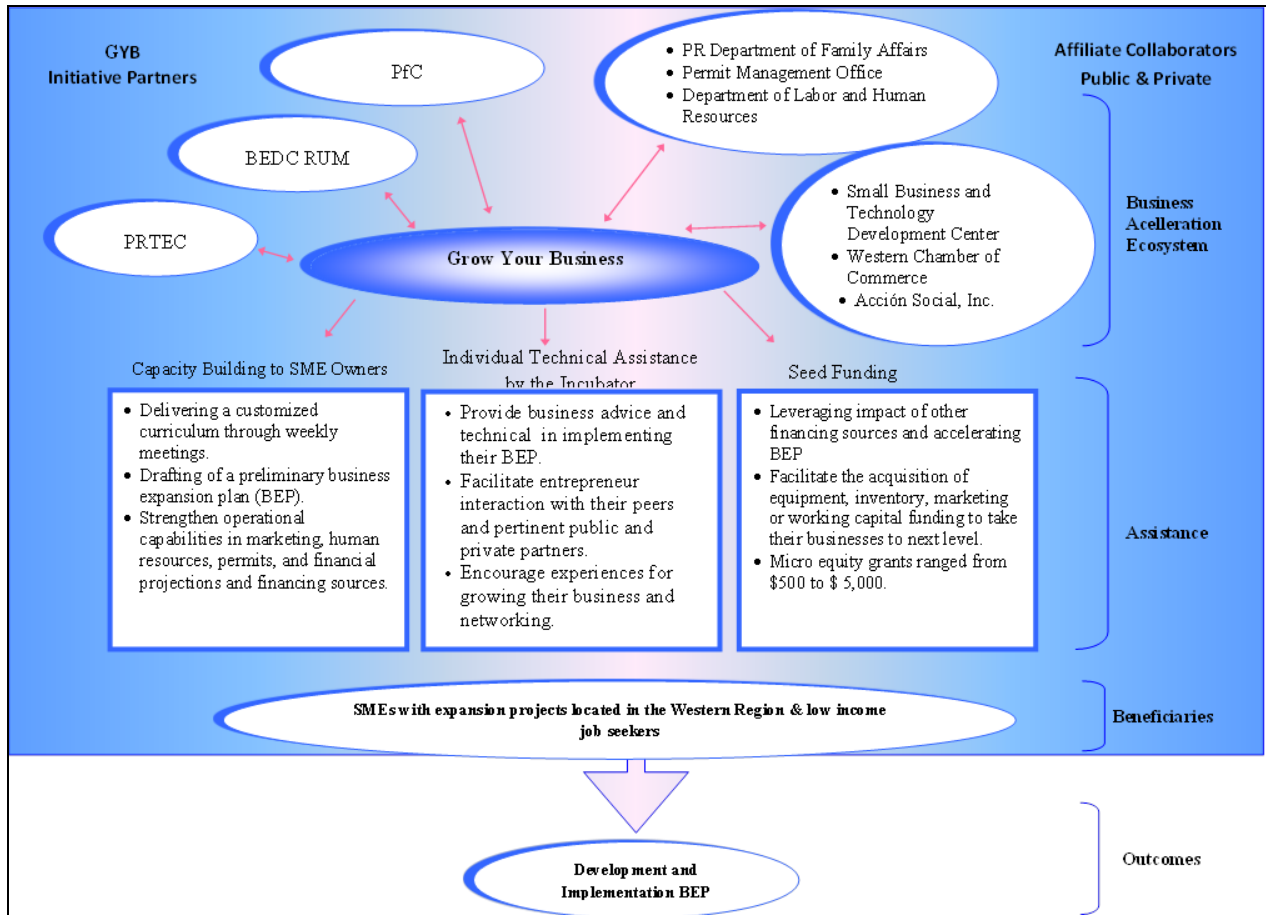
The technical assistance was carried out by PRTEC. They were responsible to assure that PRTEC's small business incubator facility in Mayaguez was fully prepared to physically receive the participants and provide them with business advice and further technical support, in groups and individually, in implementing their BEP. The use of PRTEC's incubator also had the objective to benefit entrepreneurs through the interaction with their peers and their experiences in growing their own business, as well the exposition for the development of their own networks.

Overall coordination of logistics and administration of the grant as well as managing the process of allocating and disbursing the seeds funding was in charge of Pfc. Pfc had the objective to maximize the efficient use of funds, leveraging impact on other financing sources and accelerate BEP accomplishments. The "micro-equity" grants were to facilitate the acquisition of equipment, inventory, marketing or working capital funding to take their businesses to next level. Most of the grants ranged from \$500 to \$5,000. PFC, also, provided accelerator support in virtual or remote formats by assisting entrepreneurs in the process of identification, recruitment, placement and effective follow-up with JOLI-eligible job occupants

in coordination with public assistance and social service agencies that also joined GYB as project collaborators.

The conceptual model illustrating GYB intervention components and support ecosystem is shown below in Figure 2.

**Figure 2: Grow Your Business (GYB) Intervention Model**



## Methodology

This study aimed to evaluate the firm economic impact in targeted businesses and their development in terms of insertion in the entrepreneurial ecosystem, in approximately one year



after their participation in an innovative project of formal inter-organizational networking among three supportive entrepreneurial entities, called “Grow your Business”.

## **Methodological Approach**

This research—conducted online through a web-based survey administered by Qualtrics—was developed and used to test the proposed hypothesis. The survey items were derived from existing measures with some adaptations to fit the uniqueness of this investigation. We relied on existing measures since our intention in this study was not to develop new measures when available items had been validated in prior research.

## **Sample**

This study was conducted within the group of entrepreneurs that were part of the “Grow your Business” program during the years 2011 and 2012. The sample consisted of 29 participants. The data was collected through a survey that assured participants that the study was strictly for research purposes and their participation was on voluntary basis. All surveys had being answered in Spanish. A total of 29 surveys were emailed; 24 were returned, resulting in a high response rate of approximately 83 percent. However, only 15 (52%) were returned completed and usable for data analysis.

## **Data Collection**

Data was collected based on the entrepreneurs’ experience and firm execution during and after participation on GYB program. The data collection was conducted using a structured questionnaire, but at the end of it we included two open-ended questions that maximized respondents’ opportunities for free expression allowing us to have a better understanding of their experiences during the program. The key informant was the owner of the business. In addition to questions relating to networking, education, assistance and financial performance, each entrepreneur was asked to provide some information about himself or herself, and about the firm.

## Data Analysis

Fifty-seven percent (57%) of the entrepreneurs in the sample had a university degree, while half of the interviewees are in their first business attempt, and thirty-six (36%) are in a very early stage of their business within three year of operation or less. In order to know more about the interviewees, we asked about their family's background and their primary reason to start their business. Forty-three percent (43%) of the entrepreneurs in the sample said that their parents were entrepreneurs, while the reasons to start a business varied as **Table 1** shows.

**Table 1: Primary reason to start a business**

I saw a market opportunity.	7%
I lost my job or I was at risk of losing it.	21%
I did not want to work for anyone.	14%
I come from a family of entrepreneurs.	21%
I always wanted to be an entrepreneur.	14%
I wanted to have financial independence.	7%
Others	14%

In relation to the assistance received by the organizations in the GYB program in areas of capacity building, technical assistance, financial resources and support to improve their networking, the entrepreneurs interviewed categorized all as very good, being the exception of support to facilitate the networking that categorized two of three organization as good (See details in Table #1 Appendix A).

As stated by entrepreneurs in first place, the BEDC delivered their requests in an effective and efficient way. PfC and PRTEC were mentioned in second and third place respectively. However, more than 50% of those interviewed stated that they received assistance

according to their different issues, and effective and efficient support according to their needs when they requested so from each of the organizations. See details in Table 2 Appendix A.

Regarding how the GYB impacted the entrepreneur's perception of opportunities, we found that more than half of the participants strongly agreed with the positive statement that their former participation in the GYB program, resulted in new knowledge of the existence of opportunities available to make their businesses grow and develop. However, most of the interviewees were not strongly convinced that the program helped in raising awareness that there are more business opportunities than people that are able to take advantage of them. Nevertheless, they strongly agreed in regard to the statements, that the GYB program helped them raise awareness about the effective way to pursue entrepreneurial opportunities and connect other sources of opportunities and support (See details in Table 3 Appendix A).

On the subject of capacity building, more than 75% of the participants stated that they strongly agreed with the statements that the GYB program provided them adequate training on issues such as principles economic markets such as market analysis and business planning techniques as well as in development and / or growth of businesses. Fifty-four percent of the sample said they are agreed about the statement that they received adequate education about financing alternatives and projections. It was in the education of technical aspects of business management such as: technological requirements, human resources and accounting, as well as in the education of availability of government assistance and support services that respondents were classified (50%) in their opinions on how adequately education was received (See details in Table 4 Appendix A).

Over 50% of respondents stated that through the inter-organizational collaboration of the GYB program they experienced:

1. Proximity to existing business support ecosystem	86%
2. Collaborative relationships to promote the development of their companies	79%
3. Supportive collaborative environment which resulted in better development of their companies	78%
4. Integration within existing entrepreneurial ecosystem	65%
5. Opportunities to negotiate formal collaborative agreements with other agents of the entrepreneurial ecosystem	57%
6. Opening doors within the entrepreneurial ecosystem that otherwise would not have access	50%

In table 11 of the Appendix A, details can be seen about the amount of employees that the participants report at the beginning of the GYB program (36), at the end of the program (47) and nowadays (63-almost one year later). These numbers represent an increase of 30% of employment during the GYB program and 75% of increase at almost one year later at the conclusion of the program.

Also, in the table 12 of the Appendix A, we detailed the sales growth rate of the sample at the beginning of the GYB program, at the end of the program, and nowadays (almost one year later). According to the table chart, at the beginning of the program 14% of the participants reported losses, while now none of them are reporting losses. Furthermore, the percentage of businesses with 10% of sales growth or more increased from 7% to 29%, as well as the percentage of business with 1 to 10% of sales growth which increase from 43% to 51%.

As to private investment, as table 13 in Appendix A shows, the entrepreneurs in the sample reported a financial injection of funds for more than one million dollars with the support of the GYB program through commercial and personal loans, incentives, and seed funds. Also, the respondents reported that they continued investing in their business.

## Findings

This research suggests that direct training, technical assistance, and seed funds to SME owners will directly impact their firm growth. To assert these claims, this study begins by proposing that firm performance will be positively and directly impacted by formal inter-organizational collaborations (H1). Our results show that we can accept our first hypothesis, since more than 50% of the respondents indicated that the GYB program was vital to the growth of their business, and also affirm that the collaboration between advocates promoted the development of their businesses, integrated them into the entrepreneurial ecosystem, gave them opportunity to negotiate with other agents and opened doors that otherwise they would not have had access to. Table 5 in the Appendix A details the statistical results. Therefore, our first finding is: *Formal and well-concerted collaborations between entrepreneurial advocates assist SMEs owners to improve their firm performance, leveraging the existing entrepreneurial ecosystem.*

Secondly, this research postulated that the training offer to SME's owners for capacity building will positively and directly impact their firm growth if it is worked across formal and well-concerted inter-organizational collaborations (H2). Responses reflect that over 75% of the entrepreneurs in the sample understand that there is a strong relationship between the training received and their capacity to expand their businesses. They stated that the education received not only added new knowledge and information, but it also gave them the opportunity to share experience and potential partnerships. Hence, our second finding is: *The training for building capacity to SMEs owners—provided through a formal inter-organizational networking—provokes partnership, sharing of experience, information and knowledge that enhance their competencies, and assist them to grow their businesses.* Table 4 in Appendix A details the statistical results.

Finally, this paper theorizes that the technical and funding assistance to SME's owners will positively and directly impact their firm growth through formal and well-concerted inter-organizational collaborations (H3 and H4). Our results show that more than a half of the respondents cataloged the technical and financial assistance provided by the collaborators as above average, and as exactly what they needed to move forward. Moreover, they said that the assistance provided helped them raise awareness about feasible ways to pursue entrepreneurial opportunities and connect to other sources of opportunities and resources, among others. These results provide the foundation for our third finding: *The technical and financial assistance provided through the entrepreneurial advocates might be a catalyst for SMEs owners to boost their growth.* Tables 1 to 3 in the Appendix A detail the statistical results.

Other important things, not hypothesized, were found about the entrepreneur profile and firm performance. First, most of the entrepreneurs able to start and finish formal programs, like GYB, seem to be those with higher education, are in his/her first business attempt, have more than three years of operations and are not sons of entrepreneurs. Concerning the reasons behind starting a business, these were very diverse, thus we cannot find any significant pattern that we can highlight (Tables 6-10 in the Appendix A detail the statistical results).

In relation to firm performance, our results show that the firms under the program were able to increase the amount of employees (almost one year into the program) by 75% and continued increasing their sales and investment in their businesses. Tables 11-13 in the Appendix A detail the statistical results.

## **Discussions**

The network success, compensation and founding hypotheses, state that network support increases the probability of firm growth (Brüderl & Preisendörfer, 1998), basically because it

compensates shortfalls of resources (Light & Karageorgis, 1994) and stimulates entrepreneurship activities (Burt, 1992). For that reason, De Hoyos-Ruperto (2013) states that to foster a successful entrepreneurial ecosystem entrepreneurial advocates must design programs that can craft an interconnected entrepreneurial environment that aligns with entrepreneurs' challenges. Along this line, this study adds that formal and well-structured inter-organizational networking may assist SME's firm growth, if entrepreneurial advocates are able to leverage their current entrepreneurial ecosystem through a well-managed collaboration between and amongst them. GYB program shows that the synergy of inter-organizational networking adds value for SMEs firm growth in terms of expansion plans, integration of entrepreneurs into the ecosystem and its resources, and identification of market opportunities.

Inter-organizational networking, especially between entrepreneurial advocates, may develop the knowledge-base to improve capability development and long-term growth of SMEs firms. This is so because they act as 'gatekeepers' acquiring knowledge from outside the community and making it accessible for entrepreneurs to use and engage in knowledge-sharing and exchange (Yokakul, N., & Zawdie, G., 2010). Hence, the capacity-building of entrepreneurs should be developed across formal inter-organizational collaborations that will provoke partnerships, sharing of experiences, information and knowledge, among other things (De Hoyos-Ruperto & Figueroa-Medina, 2011). With the case of GYB program, our study confirms that trainings built through advocates' formal collaborations are able to supply the different needs, expertise, knowledge, information of SMEs owners and enhance their capacities to grow their businesses.

Survey data points out the fact that SME owners valued the GYB network capability to address their needs and possibilities in different ways: either group or individualized counseling, in standard incubator or virtual settings, by means of direct support of GYB



partners or through linkages with collaborators and ultimately, by the connection to seed funding. Owners seemed also to value also the GYB ability to evolve and adapt to better suit their needs along the 30 months period that entailed the intervention.

GYB survey data suggest that formal inter-organizational networking between entrepreneurial advocates with complementary expertise and roles is able to provoke the necessary synergy for delivery relevant coordinated long term technical assistance to existing firms with expansion plans. This ecosystem approach, in turn, seems to be an appropriate methodology to effectively assist firms in accelerating growth, even in a recessionary environment such as the present time. These results are consistent with literature that depicts that existing firms needs and possibilities differ from those of startups (Criscuolo, Nicolaou, and Salter, 2012). That diversity of capabilities, internal and external influencing factors among SMEs across industries and geopolitical jurisdictions may make one size fits all solutions unfeasible when it comes to offering technical assistance to SME owners (NBIA, 2013). For instance, while there certainly are some common issues among SMEs anywhere (NFIB, 2012), there are also many that are particularly geopolitically contextually related such as the regulatory and financing environment or pertinent to an industry and/or firm such as personnel recruitment and marketing strategy (Castro, 2013). Therefore, design an appropriate technical assistant program to businesses' owner in process of expansion through a well-coordinated program between entrepreneurial advocates, could be "the spearhead" for a growing entrepreneurial ecosystem.

Seed funding was particularly helpful, according to respondents, to leverage or facilitate access to additional financing sources that were crucial to implement the individual BEPs.

Impact data reported demonstrate that firm performance improved significantly in terms of sales

growth and that a multiplier effect occurred with respect to private investment because of the possibility of developing a pertinent financing scheme for each business case. This component was particularly important in light of the fact that limited access to financing is a gap found on the local entrepreneurial support ecosystem (Montalvo, 2013). Also, while beyond the scope of this research, authors believe that this particular component of the GYB initiative is more crucial for a successful ecosystem approach in the context of a recessionary environment where access to financing is even more difficult for SMEs.

In closing, survey data also reflects areas for improvement in the approach by GYB that are worthwhile to consider by entrepreneurial advocates in the planning and implementation of similar efforts in the future. One is the way by which to promote networking among participant firms within the intervention target group and another is how to instill on owners themselves a networking culture by effectively conveying the value on the efforts they might engage by themselves to construct their own networking and support ecosystem. This finding is consistent with the local literature that point out the failure of entrepreneurs themselves to develop networks to support venture startup and sustainment (De Hoyos-Ruperto, Romaguera, Carlsson, & Perelli, 2012) and the lack of knowledge of potential sources of assistance and low disposition to affiliate to trade organizations or business networks, generally speaking, by SME owners (Sanchez, 2013).

The GYB experience suggests that further analysis and study may be warranted to unravel how to tackle these gaps either through education or more direct interventions with business owners and/or training of staff of formal inter-organizational collaborative initiatives in order to develop a sustainable entrepreneurial ecosystem.

## **Limitations**

The size and composition of our sample may limit the generalization of our findings. However, the purpose of this study was to examine the impact on SME's firm performance of an inter-organizational collaborative project between entrepreneurial advocates in terms of building capacity, technical assistance and seed funds. Our results may provide a base for other inter-collaborative projects, but it should be examined bearing in mind their own objective and program. In addition, data were measured by respondents who self-reported information about their firms and perceptions, and thus may be inherently biased.

## **Contribution and Implication for practitioners and researchers**

This study considers the synergistic effect of a well-structured inter-organizational program by different entrepreneurial advocates on the SME's owner's firm growth. Limited scholarly research has been conducted on the entrepreneurial ecosystem in Puerto Rico. Scholarly research of the effect on firm performance of well-structured inter-organizational networking programs, are even scarcer. This study adds to the body of entrepreneurship theory demonstrating that a well-structured inter-organizational networking program may facilitate SME's firm growth. This research assists the practitioners – entrepreneurs – highlighting the need to strengthen their relationships with the advocates in their entrepreneurial ecosystem, because it seems to be helpful for their plans of growth and expansion. For the entrepreneurial advocates this study remarks the necessity to reevaluate the traditional way to provide service and/ or support to entrepreneurs by only one organization. Entrepreneurial advocates need to be aware of the necessity to design an inter-organizational approach if they want to reach and overcome the expectations of their clients. For academics, this research points out the necessity to teach entrepreneurship from an ecosystem approach.



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**Appendix**

**A. Descriptive Statistic Data**

**Table 1**

1. How do you catalog the assistance provided by the entrepreneurial advocates (PfC BEDC, PRTEC) in the following areas?

	<b>Education</b>	<b>Individualized Technical Assistance</b>	<b>Financing</b>	<b>Networking</b>	<b>Knowledge</b>
<b>PfC</b>	4.5	4.36	4.14	3.69	4.33
<b>BEDC</b>	4.8	4.71	4.63	4.08	4.73
<b>PRTEC</b>	4.33	4.10	4.57	3.77	4.29

**Table 2**

2. Please choose the options that best describe your experience in the GYB Program. Please, select all that will apply.

	<b>PfC</b>	<b>BEDC</b>	<b>PRTEC</b>
<b>I received assistance in different matters by ...</b>	67%	87%	53%
<b>I received effective and efficient support from ...</b>	67%	93%	67%
<b>People that work in the organization are experienced, competent and well versed into business needs.</b>	80%	87%	67%
<b>I got what I need when I requested the assistance of ...</b>	67%	73%	60%



**Table 3**

3. Please indicate the degree to which you are in agree or disagree with the following statements. Participation in GYB Program...

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither agree nor disagree</b>	<b>Agree</b>	<b>Strongly Agree</b>	<b>Mean</b>	<b>Variance</b>	<b>Std. Dev.</b>
... helped me to identify that there are good opportunities to create and develop new businesses.	0	0	7%	40%	53%	<b>4.47</b>	<b>0.41</b>	<b>0.64</b>
... helped me to be aware that there are more business opportunities than there are people able to take advantage of them.	0	0	20%	47%	33%	<b>4.13</b>	<b>0.55</b>	<b>0.74</b>
... helped me to be aware that I can easily pursue entrepreneurial opportunities.	0	0	7%	33%	60%	<b>4.53</b>	<b>0.41</b>	<b>0.64</b>
... helped me connect with other sources of support and opportunities.	0	0	7%	40%	53%	<b>4.47</b>	<b>0.41</b>	<b>0.64</b>

**Table 4**

4. Please indicate the extent to which you are in agree or disagree with the following statements.  
Educational training provided was adequate...

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither agree nor disagree</b>	<b>Agree</b>	<b>Strongly Agree</b>	<b>Mean</b>	<b>Variance</b>	<b>Std. Dev.</b>
... on Economic and market principles such as: market analysis and business planning techniques.	0	0	0	23%	77%	<b>4.77</b>	<b>0.19</b>	<b>0.44</b>
... on financial principles alternatives and projections.	0	0	0	54%	46%	<b>4.46</b>	<b>0.27</b>	<b>0.52</b>
... on technical business matters such as: technological requirements, human resources and accounting.	0	0	0	50%	50%	<b>4.5</b>	<b>0.27</b>	<b>0.52</b>
... on governmental assistance availability of (incentives) and support services.	0	0	8%	42%	50%	<b>4.42</b>	<b>0.45</b>	<b>0.67</b>
... on development and / or growth of	0	0	0	25%	75%	<b>4.75</b>	<b>0.2</b>	<b>0.45</b>

firms.

**Table 5**

5. Please indicate the degree to which you are in agree or disagree with the following statements about your experience with the entities of the entrepreneurial ecosystem. The entrepreneurial ecosystem entities including government agencies, entrepreneurial advocate organizations such as: Pfc BEDC and PRTEC, Commercial Banks, among others. Through the GYB program...

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither agree nor disagree</b>	<b>Agree</b>	<b>Strongly Agree</b>	<b>Mean</b>	<b>Variance</b>	<b>Std. Dev.</b>
...I negotiated formal partnerships with other organizations into the entrepreneurial ecosystem.	14%	8%	21%	43%	14%	<b>3.36</b>	<b>1.63</b>	<b>1.28</b>
... I experienced collaborative relationships between Pfc CNDE& PRTEC to promote the development of my firm.	7%	0%	14%	29%	50%	<b>4.14</b>	<b>1.36</b>	<b>1.17</b>
... I experienced the supportive collaboration between Pfc CNDE & PRTEC which resulted in a better development of my firm.	8%	0%	14%	21%	57%	<b>4.21</b>	<b>1.41</b>	<b>1.19</b>
... I experienced proximity to the existing entrepreneurial supportive ecosystem.	7%	0%	7%	43%	43%	<b>4.14</b>	<b>1.21</b>	<b>1.1</b>
... I experienced opening doors through the entrepreneurial ecosystem that otherwise wouldn't have.	14%	7%	29%	21%	29%	<b>3.43</b>	<b>1.96</b>	<b>1.4</b>
... I experienced the facilitation of process through the integration of	7%	7%	21%	36%	29%	<b>3.71</b>	<b>1.45</b>	<b>1.2</b>

**Table 6**

6. Please indicate the highest level of education you completed.

	Percent	Variance	Std. Dev.
Middle School	0%		
High School	14%		
Technical Institute	29%		
Bachelor	36%		
Master Degree	14%		
Doctoral degree or More	7%		
Total	100%	1.3	1.14

**Table 7**

7. This is my \_\_\_\_\_ attempt of business as an entrepreneur.

	Percent	Variance	Std. Dev.
First	50%		
Second	36%		
Third	7%		
More than three	7%		
Total	100%	0.84	0.91

**Table 8**

8. Please indicate the primary reason why you started your business.

	Percent	Variance	Std. Dev.
I saw a market opportunity	7%		
I lost my job or I was at risk of losing it	21%		
I did not want to work for anyone	14%		
I become from a family of entrepreneurs	21%		
I always wanted to be an entrepreneur	14%		
Economic independence	7%		
Other (Specify)	14%		
Total	100%	3.61	1.9

**Table 9****9. Family background (my parents are/were .**

	Percent	Variance	Std. Dev.
Self-employment and / or business own	43%		
Managers and / or administrative personnel of private enterprise	7%		
Employees of private companies and/or government	50%		
<b>Total</b>	<b>100%</b>	<b>0.99</b>	<b>1</b>

**Table 10****10. How long time had in operation before participate in the GYB program?**

	Percent	Variance	Std. Dev.
1 to 3 years	36%		
4 to 5 years	14%		
6 to 10 years	14%		
More than 10 years	36%		
<b>Total</b>	<b>100%</b>	<b>1.81</b>	<b>1.34</b>

**Table 11****11. Please indicate the number of employees in your company for the followings dates (Part-time employees were as .5). Includes owners and/or partners that are working in the company)**

	Number of employees before GYB (December 2009)	Number of employees at the end of GYB (December 2011)	Total of employees 1 year later GYB (December 2012)
	0	1	1
	2	2	3
	1	2	5
	1	2	2.5
	2.5	2	2.5
	1	2.5	4
	11	11	12
	3	2	2
	2	5	10
	6	6	7
	2.5	3.5	4
	2	4	4
	2	4	6
<b>Initial amount of employees</b>	<b>36</b>	<b>47</b>	<b>63</b>
<b>Increase at the end of</b>		<b>11</b>	

<b>GYB</b>		
<b>Increase at one year of GY]</b>		<b>27</b>

**Table 12**

12. What was your percent of sales growth for.....? ("sales growth rate")

	<b>Dec 2009</b> <b>(before GYB)</b>	<b>Dec 2011</b> <b>(At the end of GYB)</b>	<b>Dec 2012</b> <b>(1 year after GYB)</b>
Lost	14%	7%	0%
1-5%	36%	36%	30%
6-10%	7%	22%	21%
11-15%	0%	7%	14%
16-20%	0%	0%	0%
21-25%	7%	0%	0%
26% or more	7%	14%	14%
N/A	29%	14%	21%
<b>Mean</b>	<b>4.29</b>	<b>3.86</b>	<b>4.5</b>
<b>Variance</b>	<b>8.84</b>	<b>6.29</b>	<b>6.27</b>
<b>Std. Dev.</b>	<b>2.97</b>	<b>2.51</b>	<b>2.5</b>
Lost	14%	7%	0%
1-10%	43%	58%	51%
10% +	7%	21%	29%

**Table 13**

13. Please indicate, what was the amount of private investment for your company in the following years:

	<b>Total Private Investment at the end of 2011</b> <b>(at the end of GYB)</b>	<b>Total Private Investment at the end of 2012 (1 year after GYB)</b>	<b>Institutions</b>
Business Loans	\$ 375,000	\$ 65,000	Popular Bank, BBVA, BPPR-SBA, EDB for PR
Wage Incentives	-	2,610	Mayagüez Consortium, TANF Program
Personal Investment	520,800	10,000	N/A
Personal Loans	20,000	3,000	BBVA, Santander
Seed Fund or Grants	21,500	6,000	PfC
Credits Cards	13,000	3,000	N/A
Others	50,218	86,418	Family Investments, Sam's Club, INSEC, AmeriCorps & Rural Development
<b>Total</b>	<b>\$ 1,000,518</b>	<b>\$ 176,028</b>	