International Journal of Business, Human and Social Sciences
ISSN: 2517-9411
Vol:7, No:4, 2013

Analysis of Program PRIME at Brazil

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***Abstract*—**Policies that support entrepreneurship are keys to the generation of new business. In Brazil, seed capital, installation of technology parks, programs and zero interest financing, economic subsidy as Program First Innovative Company (PRIME) are examples of incentive policies. For the implementation of PRIME, in particular the Brazilian Innovation Agency (FINEP) decentralized operationalization so that business incubators could select innovative projects. This paper analyzes the program PRIME Business Incubator Center of the State of Sergipe (CISE) after calculating the mean and standard deviation of the grades obtained by companies in the factors of innovation, market potential, financial return economic, market strategy and staff and application of the Mann-Whitney test.

***Keywords*—**Entrepreneurship, innovation, technology parks, business incubators.

I. Introduction

UNIVERSITY, technology parks and business incubators feature a dynamic complementarity in knowledge, access to technology and entrepreneurship in a region. Therefore, the major challenge involves the interaction of the various actors in the process of innovation and entrepreneurship. Authors state that technology-based entrepreneurship is a phenomenon is regional development, where companies arising from spin-off (or academic enterprise) promote technology dissemination and management expertise in that area [1].

Additionally, with the innovation, they create opportunities for new companies to enter and explore the market. Thus many studies are links of technology-based companies, with regional development.

A successful experience of articulation between scientific knowledge and research developed at the university that gave impetus to entrepreneurship, especially in the segments of microelectronics and its consequences, is called the Silicon Valley, California / USA [2]. Strengthening the central thesis of the role of innovation in national and local development did replicate this model in Europe and Brazil also assimilated these experiences, since 1984.

In Sergipe, Brazil, the Technology Park (Sergipe Tec) located near the Federal University of Sergipe (UFS) hosts a business incubator called Business Incubator Center of the State of Sergipe (CISE). This article presents an analysis of the Program First Innovative Company (PRIME) Brazilian Innovation Agency (FINEP) through a study of data related to the selection of innovative projects undertaken by this incubator.

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II. Entrepreneurship

According to a study conducted in 2011 by National Association of Entities Promoting Innovative Enterprises (ANPROTEC) in partnership with the Ministry of Science, Technology and Innovation (MCTI), Brazil has 384 incubators in operation, home to 2,640 companies, generating 16,394 jobs. These incubators have also graduated 2,509 enterprises, today revenues of R$4.1 billion and employ 29,205 people as in Table I. The same study revealed another important fact: 98% of incubated companies innovate, and 28% focused on the local, 55% national and 15% in the world [3].

TABLE I
Incubation System (2011)

Total	Status
2,640	Incubated
2,509	Graduated
1,124	Associates

A. Program PRIME

The objective of the PRIME was selected Brazilian companies springs to submit innovative products or services, innovative content and a business plan indicative of its growth potential. And the goal was to qualify in Brazil around 1,900 enterprises innovative companies. In all, there could be disbursed about R$230 million in 2009. Could participate in the Program companies in any industry, with up to two years of existence, engaged in activities with technological content and have an economically viable product and was legitimized by Public Announcement of Selection published by agents operating under the guidance of FINEP [4].

In an attempt to reduce developmental difficulties in its initial phase, the Prime supported the company in this critical stage of birth, enabling entrepreneurs to devote himself entirely to the development of innovative products and processes documents and building a strategy of entering the market. The volume of funds was R$ 120,000.00 per company and the distribution of costs was performed, according to the Kit Prime as Table II [5].

TABLE II
Kit Prime

Item	Support (Until R$)	Quantity
Pro-labor	40,000.00	Until two people
Manager	40,000.00	One people
Consulting	40,000.00	Until three contracts
Total	120,000.00	

In line with its objective, the CISE signed a contract with FINEP to support innovative projects. The stages of selection

were divided into: 1) Phase simplified (pre-registration and analysis with four referees); training and detailed step (analysis of the evaluation committee composed eight members) and document analysis with proof of regularity with the Ministry Labour and others, before signing the contract [6].

As the notice was national entrepreneurs from other states, and Sergipe, could send their proposals, such as states of Bahia, São Paulo, Pernambuco, Ceará and Alagoas. The incubator operate as an agent of the program, publicize, and select projects monitored and accountability, according to the guidelines and procedures of FINEP.

The total number of entrepreneurs enrolled in the pre-qualification was over 3,000, almost half of the Southeast, and the CISE received 81 (eighty-one) initial entries. Of the winners, 9 (nine) were Sergipe. The business sector of the winners of PRIME/CISE focused on Information Technology and Communication – TIC (65.6%), although there were projects of professional, scientific and technical education, renewable energy and biotechnology. Approved the proposals that obtain average more than 6 (six) with a maximum score of 10 (ten), according to the criteria: degree of innovation of products/services, market potential, return economic and financial, importance ok kit prime for enterprise, quality team and consistency of the proposed advisory.

III. Methodology

This research is explains in detail the Prime Program in CISE. Was the chosen method using the quantitative calculation of mean and standard deviation of the grades obtained by companies in the evaluation criteria of companies. To compare means between firm characteristics in the evaluation criteria of the companies was used test Mann-Whitney test. To determine which characteristics of the companies increased the chances. On the status of the announcement we used Odds Ratio (OR) statistic that evaluates the ratio of the probability of occurrence of an event (success) and the chance to not occur (failure) using the software Statistical Package for Social Sciences (SPSS), available at the Federal University of Sergipe.

A. Analysis of Data

In this article we analyzed the reports of the marks obtained by companies in step detailed evaluation of the projects. Forty-two projects were classified in this stage, when the committee members gave their notes, according to the criteria of innovation, market potential, economic return / financial, market strategy and team. It is noteworthy that the members were invited participants from institutions related to entrepreneurship. Table III shows the average scores of companies approved and disapproved.

TABLE III
Status - Approved And Disapproved

Status	Approved		Disapproved		Mann-Whintey
	Mean	SD	Mean	SD	
Innovation	7,30	0,84	4,89	0,44	0,00
Market Potential	7,02	0,75	5,08	0,43	0,00
Return Economy Financial	6,72	0,83	4,94	0,77	0,00
Market Strategy	6,65	0,75	5,17	0,57	0,00
Team	7,31	0,90	5,89	0,49	0,00

It is noticed that the team factor, followed by 'innovation', companies adopted took the highest score means therefore that businessmen know selecting the staff to develop the project. Another interpretation that can be made is that innovative projects require a team of people with higher education or technical. The analysis of mean companies deprecated, or disqualified from the selection process, shows the innovation with lower average. Therefore, projects with low innovation were not included, because, the entrepreneur does not know what innovation is not detailed or innovation in design.

TABLE IV
Status Sector of Technology of Information and Communication (ICT)

Sector of ICT	ICT		Other Sector		Mann-Whintey
	Mean	SD	Mean	SD	
Innovation	6,92	0,99	6,57	1,59	0,51
Market Potential	6,60	0,98	6,57	1,20	0,99
Return Economy Financial	6,57	0,90	5,99	1,28	0,22
Market Strategy	6,42	0,83	6,19	1,10	0,57
Team	6,86	0,86	7,19	1,20	0,34

The companies in the ICT sector represent the largest part of the portfolio of projects, and also had higher average grades than those of other sectors (biotechnology, consulting, renewable energy) as demonstration data in Table IV, but not statistically significant. However, when using the Odds Ratio (OR) we found that companies in the sector of ICT 3.84 has more chances of success. The interpretation that can be drawn is that the ICT industry is innovative marketing and financial viability presents. Moreover, the average 6.42, obtained in the factor market strategy, demonstrates that entrepreneurs didn´t know how to define their strategies to ensure the entry of their products and services in the market that work. It is worth mentioning that the team averaged less than companies in other sectors, but this problem must be a lack of qualified personnel in the country to participate in innovative projects in the state of Sergipe. And companies located in the state capital of Sergipe have 5.42 times more chances of being approved than those in the city of inner.

IV. Conclusions

The first contribution presented in this article is the diagnosis of selection occurred in PRIME of Business Incubator Center of the State of Sergipe (CISE) in order to start thinking about innovative projects in the state.

It was noticed that entrepreneurs in the ICT sector and residing in the capital had more chance of success.

As the PRIME allowed the hiring of management consultancy, in fact, was the creation of organizational structure and processes of the companies covered. And in relation to marketing consulting, entrepreneurs could set the company's portfolio, performed the consolidation of the brand, and so designer. Increased understanding of the innovation, however, depending on time Project (2 years), there was not much generation of new products and patents, even internationalization.

It is noteworthy that the PRIME was a program that brought benefits to the community, given that there was an increase in the number of jobs (managers, consultants, employees and trainees), revenue growth of some firms and larger financial capital. In addition, those winners PRIME increased the odds of support from other organs of state are Science and Technology or federal because the know-how acquired facilitated the adoption in other edicts.

REFERENCES

[1] DAHLSTRAN, Asa Lindholm, "Technology-based entrepreneurship and regional development: the case of Sweden", *European Business Review*, vol. 19, pp. 373–386, 2007.
[2] BERLIN, Leslie, Entrepreneurship and the rise silicon valley: the career of Robert Noyce, *Enterprise Soc*., Dec. 2003, pp. 586-59.
[3] ANPROTEC - National Association of Entities Promoting Innovative Enterprises, www.anprotec.org.br.
[4] CINTEC/UFS – Center of Innovation and Technology Transfer, "Entreprises of country completion at PRIME 2009", *Informative*, p. 2. Mar. 2009.
[5] FINEP - Brazilian Innovation Agency, www.finep.gov.br.
[6] CISE - Business Incubator Center State Sergipe, www.cise.org.br.

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