

Best Practices in Entrepreneurship Centers

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Abstract

The paper presents the initial status of the pos-doctorate research being conducted by the author with the supervision of Dr. David Gibson and Dr. Jim Jarrett from IC² Institute of The University of Texas at Austin.

The main objective of the research is the development of a knowledge database to share “best practices” and the identification of performance indicators to promote benchmarking among the organizations.

The topic was born from the integration of the researcher knowledge about benchmarking and entrepreneurship, and the idea of creating and maintaining a Best Practices Database that can be shared. Create and maintain a Best Practices Database that can be shared among Entrepreneurship Centers can provide reference points and goals for improvement. The measures can identify a successful management and performance indicators facilitate the adoption of benchmarking projects and consortium (comparative studies) among centers to achieve the “excellence in management”.

The proposed study considers the use of the benchmarking methodology to compare the management practices adopted by the Entrepreneurship Centers and Incubators in USA, Brazil and Portugal.

The research would focus on identifying and selecting high performing entrepreneurship centers in Brazil, Portugal, and the United States. After these centers are selected, they will be reviewed in further detail to establish a best practices database. Information from this database would then be shared with interested parties to improve the performance of other entrepreneurship centers in the three countries. To make the comparison possible, the research will identify indicators of performance of greater interest of participating centers.

Sharing the research findings would occur through publications as well as conferences and training sessions as appropriate.

The following main results are expected:

- Establishment of performance measurement indicators
- Methodology for comparing practices among Centers of Entrepreneurship and Incubators
- Best Practices database

The research will follow the benchmarking and will have the duration of 18 months and started on March/2009.

This paper shows the research objectives, the methodology adopted and the actual status.

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Doctor and Master degree in Industrial Eng and graduated in Civil Eng. She is now developing a pos-doctorate research at the University of Texas at Austin – in the ICC. She has thirty years of experience in the Quality field. Worked at INMETRO/Brazil for 12 years, where she took active part in the professional team that started the INMETRO operations in the Quality area. She is Partner and Director at ZADA Consultoria Empresarial and since 1979 has been developed consulting projects for big companies in Brazil. She is Professor at PUC-Rio at the Industrial Engineering Department and Entrepreneurship Department. She is author of several papers and co-author of books both in Brazil and abroad, among them being a chapter of the Robert Camp book, Global Cases in Benchmarking. Since 1995 she used to work as examiner of PNQ (national quality award). She also used to be examiner of Ibero American Quality Award in 2006. She is an active instructor of courses for preparing the examiners board of National Quality Award. She is considered one of the pioneers in the Quality movement in Brazil.

1. Research objectives

The research objectives is to develop a knowledge base to compare and share “best practices” and the results of performance indicators among Technology Incubators in USA, Brazil and Portugal.

Considering the role of technology incubators in the development of the country, the agents of innovation, public and private, in different countries, have sought to promote studies and research and improve mechanisms for sharing and compare knowledge between technological parks and incubators. The research presented in this paper is one such effort to share knowledge and practices, and reliable information to:

- Identify and select high performing Technology Incubators in Brazil, Portugal and the United States;
- Review in further detail the managerial practices of the selected centers and the related performance indicators;
- Establish a best practices database to be shared with interested parties to improve the performance of other entrepreneurship centers in the three countries and
- Share the research findings through publications, conferences and training sessions as appropriate.

To achieve the research objectives and achieve results relevant to studies and subsequent actions, the assumptions used by the author are being aligned to the studies and efforts in representing the interests of entities involved in the three countries: Brazil, USA and Portugal. Thus, the research looks to align the criteria for the selection of the incubators to be compared as well as the used indicators with the criteria and indicators already used and the interest of the entities representing the three involved countries.

2. Conceptual fundamentals

Initiatives and studies developed for classification and evaluation of the performance of incubators and technological parks in Brazil, U.S. and Europe comprise the group of references for the research. The group is quite wide, but some of these studies were selected as a focus because they have more affinity with the research objectives. These studies constitute the conceptual basis of research.

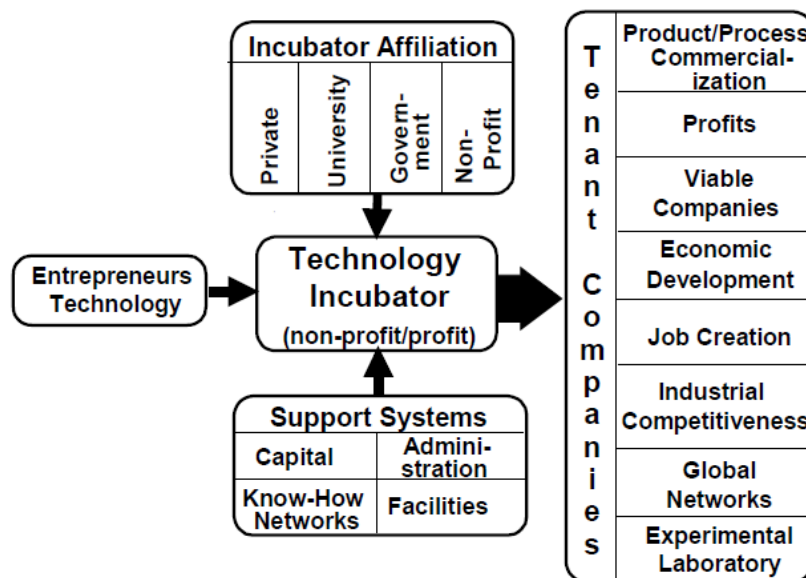
According to the European Commission’s Final Report *Benchmarking of Business Incubators* (2002), “the performance of business incubators should be judged primarily in terms of the results achieved, i.e. the impact they have on businesses, wider economic development and other priorities. An important lesson to be learned is that an incubator can only be assessed by obtaining information from companies. Feedback from companies is also important from a more practical point of view, i.e. client management and networking with graduates”. The benchmarking methodology adopted by the European Commission as well as the group of indicators showed in the study will be considered in this research. According to studies of Fiates et al (2008), technology intensive oriented firms are the basis of the new “knowledge society” and act as true “additive” and “catalyst” for the other sectors of the economy. In the referenced article, the authors mention that although it is a relatively recent experience, the movement of technology parks in Brazil already identify some typical characteristics that make up the basis of what can be consolidated as a “Brazilian model” of PqTs - Technological Parks, and the first one is that the Brazilian “PqTs” have a strong relationship with mechanisms and initiatives to promote innovative entrepreneurship, especially for business incubators.” In the research the technology incubators will be examined in view of the relevance of them in the process of technology development of each region.

Another important reference is the IDISC Research, an initiative of the InfoDev. InfoDev is a partnership of international development agencies, coordinated and served by an expert Secretariat housed in the Global ICT Department (GICT) of the World Bank, one of its key donors and founders. InfoDev helps developing countries and the international partners maximize the contribution and impact of the private sector through direct support for ICT-enabled innovation, new business and partnership models and toolkits, and networking among entrepreneurs, private sector investors and the donor community. iDISC -the infoDev Incubator Support Center - is an outcome of infoDev’s Incubator Initiative, an Initiative started in 2002 to support organizations promoting ICT-enabled innovation and entrepreneurship in developing countries. IDISC builds on previous research and work done by ANPROTEC, the Brazilian Association of Promoters of Innovative Ventures, with support from infoDev and SEBRAE, the Brazilian Support Service for Micro and Small Enterprises. According

to IDISC database (2009)¹ “Evaluation and reporting is an important step as it can provide qualitative and quantitative information on incubator performance over a given period. Evaluation and reporting should consider cultural, economic, social and technological performance within the incubator’s region of operation. The implementation of an incubator performance evaluation system should result in increased effectiveness in decision making and/or coordination by the incubator management. It should also assist in avoiding weaknesses and losses within the incubator and its various partners.”

Wiggings and Gibson (2003) highlight the basic components of technology incubators in the U.S., as Figure 1. These components must be considered when comparing processes of practices and results of incubators. Any analysis should consider the appropriate classification of the incubators for the comparison process to be reliable.

Figure 1 Basic components of US Technology Incubators (Source: Joel Wiggings and David V. Gibson - Overview of US incubators and the case of the Austin Technology Incubator)



According the same study, Gibson and Wiggings (2003), “NBIA report of the incubation industry identified typical services (by more than 75% of the respondents) offered by technology incubators:

- assistance with business basics
- marketing assistance
- accounting/financial management
- investor and strategic partner linkages
- networking activities
- links to higher educational institution
- conference rooms and other shared facilities
- shared administrative services.”

Morris (2004) identified the eight key variables to defining a Entrepreneurship Center Model as:

- Structural autonomy or tie-in with academic department.
- within b-school or outside
- budgetary independence (generating & spending funds)
- involvement of tenure track faculty
- responsibility for curriculum
- involvement of students
- responsibility for applied academic research

¹ IDISC – Infodev Incubator Support Center, Incubator Performance Evaluation, 2009, www.idisc.net - DISC - the infoDev IncubatorSupport Center - is a virtual networking and knowledge-sharing platform for incubators and technology parks leveraging ICT to facilitate entrepreneurship and new business creation in developing countries.

- engagement on campus versus off campus
- involvement or participation in venture start ups

The incubators then can be compared, provided they have similar characteristics among the variables presented.

In addition to the different variables identified by Morris, Castro and Magacho (2008) define the Process of Generation of Entrepreneurs and Ventures as a continuum that ranges from the promotion of entrepreneurial culture in universities, to the local and sector development in the society, going through the pre -incubation, selection of enterprises, the incubation itself, the ranking of companies and the post-incubation period. In this continuum, the academic community has a strong role in the initial phase of incubation, until the enterprise itself, as the product of the incubation, get the expected results.

3. Research methodology

The research is scheduled to take 18 months, and follows the benchmarking methodology that allows the comparison of management practices among organizations. A detailed description of the methodology is being adopted for this project. The 8 steps below summarize the overall approach:

Step 1: Preparation of the project

Talk with stakeholders to adjust and to focus the objective and the expected results with the study.

Step 2: Bibliographical revision

Research the exist literature about benchmarking in entrepreneurship Centers.

Step 3: Elaboration of the model and the relevant performance indicators

Identify the conceptual basis of the comparison, the variables of differentiating the types of Centers and the performance indicators to compare. A generic incubator model will developed setting out basic functions and operating processes. This model is based on the literature review.

Step 4: Identification and selection of the Top Centers for application

The research will be conducted on selected Incubators, witch will be considered as pilot. The pilot study will be the basis to validate the model. To select the pilot study, criteria for selecting have to be defined to select the Incubators to be compared. The criteria shall be defined in accordance with the stakeholders' interests.

Step 5: Data collection and analysis

Two surveys are planned to be carried out. The first focused on selected incubators themselves and the second involved obtaining feedback from client companies. The survey data will used to determine where incubators stand in relation to the performance indicators. To conduct the data collection, will be necessary:

- Identification of criteria for data collection
- Identification of the control points to collect data
- Selection of the tools for collecting data
- Data collection
- Data analysis

To make the comparison possible, the research will identify relevant performance indicators, the 'key performance drivers', and will establish a ranking between the institutions. The indicators are always related with a managerial practice, which will be also analyzed in this phase. In addition, the data to be collected shall be enough to highlights the best practice benchmarks that would drive the best performance to which incubators achieve.

Step 6: Establishment of the knowledge base with "best practices"

After the data collection and the analysis of the results, the "best practices" and the Performance Indicators will be the basis to build and to design the knowledge base with the found best practices. The main purpose of the database is to provide a tool to be accessed by incubators interested in developing benchmarking studies with other partner incubators.

Step 7: Validate the results with Centers involved

Presentation and validation of the results to UT, PUC and the Incubators involved.

Step 8: Lessons learned and how to proceed after

Lessons Learned session to identify improvement opportunities for other studies. Publications, conferences, workshops and training sessions.

4. Expected results

As cited by European Commission's Final Report *Benchmarking of Business Incubators* (2002), "there is now a large amount of research on business incubators. However, there has been relatively little emphasis – explicitly at least - on benchmarking best practice.

As a result, the research is not only to provide information on incubator activities but to also provide a road map that can be used by managers to improve performance.

The concrete results of the research suppose to be:

- A list of "world class practices" and related (and relevant) performance indicators
- A methodology for comparing practices among Entrepreneurship Centers
- A Best Practices Database
 - The "best in class" Entrepreneurship Centers
 - Comparison of the performance indicators

5. Current status

The research was initiated in March 2009 and steps 1 and 2 of the methodology are completed. At the present time steps 3 and 4 are being developed: Step 3 - *Elaboration of the model and identification of the relevant performance indicators*; Step 4 - *Identification and selection of the Top Centers for application*.

As part of the methodology, interviews were held with stakeholders in Brazil, and will be hold with representatives of organizations representing the U.S. and Portugal.

As a result of discussions in Brazil about the research, some assumptions are being considered for further validation with Portugal and USA:

Taxonomy for the differentiation of the Incubators – The technology incubators to be selected will be analyzed in light of studies of Wiggings and Gibson (2003) and characterized according to its basic components (see Figure 1). It will also be used the Morris study (2004) to differentiate the incubators according to the typology, taking in consideration greater or lesser adherence to the eight key variables to defining the Entrepreneurship Center Model.

Selection of Incubators for the pilot study - The criteria for the selection of Incubators were defined as follows: Facility to obtain data; Visibility; Organization interest and alignment to stakeholder's strategic objectives.

In Brazil, were selected the technology incubators designated as "Ancora" by the PRIME program. To support emerging innovative enterprises, the Program First Innovative Company (Prime) was presented on 03/12/2008, when the FINEP (Agency for Promotion of Brazilian Government) signed agreements with 18 incubators-anchors. These incubators will be responsible for the selection of enterprises in the States and direct transfer of State funds. In one year, the Ministry of Science and Technology plans to invest R\$ 249 million in 2015 companies with up to two years of life. The goal of the program is to help the companies structure their business plans and develop new products and services.

As a next step, should be consulted stakeholders in Portugal and USA for selection of Incubators to be studied as a pilot.

Indicators of performance to be compared - With respect to indicators, will be considered those relevant currently used in studies and projects of National scope in Brazil, U.S. and Portugal. In Brazil, after analysis and interviews, we identified indicators:

- Adopted by the SAPI system - Monitoring System of Technology Parks and Incubators
- Used by the incubators as a result of PNI
- Defined by the IDISC
- Related to the processes identified at the CERNE - the Reference Center for Support of the New Ventures

The SAPI system aims to monitor, by a group of indicators, the growth and impact related to the generation and consolidation of innovative enterprises of the incubators and technology parks in the country. Those are strategic indicators and they measure the overall performance of incubators. SAPI indicators are related with key issues of the development of incubators and entrepreneurship centers. The SAPI indicators are related to:

- Local/regional impact
- Graduated companies performance
- Investments *versus* Tax
- Human resources competency
- Financial autonomy
- Quality and capability

The indicators used by the incubators as a result of PNI were identified at the Incubator of PUC-Rio, and are part of the group of management indicators used by managers to evaluate the performance of the incubator during the planning cycles. They are operational indicators and are presented below:

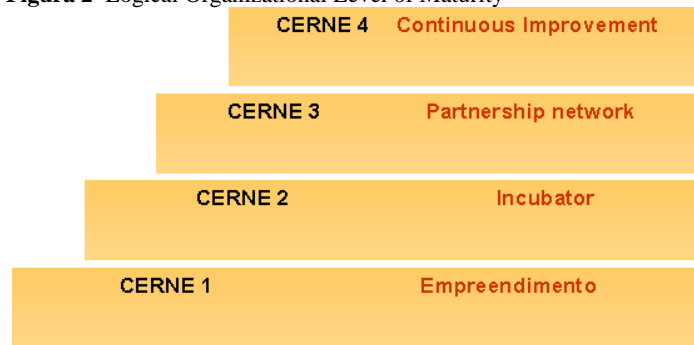
- Projects selected for incubation / Projects candidates
- Total turnover of the last 12 months of incubation company / Total of incubated companies
- Total turnover of the last 12 months of incubation company/ Total employees of the incubated companies
- Total dissolution companies / Total graduated companies
- Modules occupied / Available modules
- Total of companies graduated / Total of incubated companies
- Total of products and services generated / Total of incubated companies
- Time of incubation of companies graduated / Total graduated companies
- Total turnover of incubated companies last 12 months / Total turnover companies incubated the year before
- Total of incubated companies with patent registration / Total of incubated companies
- Total of incubated companies certified (ISO 9000, National Quality Award) / Total of incubated companies
- Total of companies on the market graduated / Total of companies graduated

For each one of the processes identified as key, the IDISC shows the "best practices" and performance indicators related. The main processes defined by the IDISC are:

- Start an incubator
- Select clients
- Graduate clients
- Provide services
- Manage an incubator
- Finance an incubator
- Raise awareness
- Market an incubator
- Monitor & Evaluate an Incubator
- Affect policies & regulations
- Engage Partners

In addition to the indicators listed above, will be analyzed the processes identified at the CERNE - Reference Center for Support of New Ventures. The CERNE Program is a collective structure of an Incubation of Innovative Enterprises model. The CERNE was designed as an epicenter of the development process, inspired on the performance of the *Small Business Development Centers* (SBDCs) and *Business Innovation Centers* (BICs). The program aims to assist the managers of the incubation programs that intend to implement changes in order to leverage results and increase the effectiveness and efficiency of their incubators. It is a reference model that identifies the systems, elements and key practices that an incubator must deploy in order to generate, systematically, a higher number of successful innovative ventures. In this sense, the model was constructed from three levels of approach: the company, the process of incubation and the incubator, as shown in Figure 2.

Figura 2 Logical Organizational Level of Maturity



Accordingly, it will be created an assessment and certification system, including courses, consultancies and knowledge base, so it will be possible to formally verify when an incubator will have the systems of a certain level implanted. To accomplish this, accredited institutions will be created to certify the incubators with reference to the CERN levels. The CERNE 1 contains the essential elements to an organization to be considered a reference company incubator, able to promote the generation of successful business. Each of the elements shown in the previous figure is implemented by one or more systems that will lead to the indicators to be used for assessing the performance of incubators, they are:

- Planning System
- Capacitating System
- Advisory System
- Monitoring, Evaluation and Guidance System
- Graduation and Future Projects Support System
- Exploration and Awareness System
- Qualification of the Entrepreneur
- Selection
- Contracts
- Institutional Model
- Financial Management and Sustainability
- Physical Infrastructure and Technology
- People Management
- Systems management support
- Communication Systems and Marketing

6. Final considerations

Performance evaluation of incubators is not a simple process. Many efforts have been developed, and some have achieved success. This research will be a further step in that direction.

It is hoped that the knowledge base to be generated will enable inter-comparison between management practices and incubators indicators, initially in Brazil, Portugal and USA. The use of a Bank of Good Practices for incubators may be as important in the future as it is now for successful business companies.

A well developed Bank of Good Practice, kept updated, can become a comparative referential for the practice of benchmarking between incubators around the world, interested in improving more and more their management performance in order to achieve superior results.

7. Bibliography

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