XX IASP WORLD CONFERENCE ON SCIENCE AND TECHNOLOGY PARKS June 1-4, 2003 - Lisboa, Portugal

A STUDY ABOUT THE MAIN DETERMINANT FACTORS OF THE SUCESS OF BUSINESS INCUBATION: A STUDY ABOUT THE MANAGER'S VIEW ON TECHNOLOGY BASED BUSINESS INCUBATION

Geciane Silveira *Porto* College of Economics, Administration e Accounting of Ribeirão Preto, University of São Paulo Departament of Administration Avenida dos Bandeirantes, 3.900, 14040-900, Ribeirão Preto, São Paulo. Brazil Phone: 55 16 602-3914, Fax: 55 16 602-3903 e-mail: <u>geciane@usp.br</u> site: <u>www.fearp.usp.br</u>

Norberto Honorato *Prestes* Junior College of Economics, Administration e Accounting of Ribeirão Preto, University of São Paulo Departament of Administration Rua Barão do Rio Branco, 269, 14160-0470, Sertãozinho, São Paulo. Brazil Phone: 55 16 642-5958, Mobile: 55 16 9792-4212, Fax: 55 16 602-3903 e-mail: <u>nprestes@yahoo.com</u>

Abstract: The meaningful growth of the Technological Base Business Incubation model in Brazil has become a more and more frequent focus of studies. This article analyzes the view of agents management or in promoting and supporting institutions for the incubations. In a way of raising data which can contribute with the responsible people for the implantation of models of Technological Base Business Incubation management in Brazil, this study tries to contribute to the discussion related to failures in the implantation of incubations and the questioning related to the possible determinant factors for their success.

Key words: incubations, manager, implantation, technology.

1-Introduction

Even with optimistic data related to the incubation growth, to keep them working out in face of frequent different difficulties in the business scenario, make it necessary the knowledge about a greater number of management tools which can be used to guarantee the success of the project. This way, as we identify the most adequate management procedures and they begin being adopted, the problems decrease and they will possibly be foreseen.

The focus point in this study is the action universe of business incubation managers in Brazil. The relevant factors on the management are evaluated in terms of how capable they are on providing business success. The experience of the professionals who work with the "every day" of business incubation can contribute to the development of a work methodology which will optimize the results on business incubation management.

The proposal of the research is qualitative, with collection of primary data based on questionnaires applied to managers of Technological Base Business Incubation unities which are already installed and in operation for more than two years in Brazil. It is also based on interviews of public authorities and institutions whose goal is to encourage the micro and mid-size enterprise, such as SEBRAE and ANPROTEC. Those institutions allow the collections of data able to get more information about Brazilian Incubation Business. This job also used a management model used in other countries. The data will be collected in reports and articles published in those countries which will be the reference theory for the study .

2- Research Proposal

This study is necessary to understand the relevant factors for the success and which were the difficulties found in the Technological Base Business Incubation installation and management. This study seeks the answers to questions such as:

- Factors of success for the installation of incubations such as: the importance of the institutions in the national and regional scenario, the amount available for the everyday management process, the kinds of management tools used etc;
- Which were the most important difficulties and challenges in consolidating the incubator in the domestic environment;
- Which are and how to process the different phases of installation and improvement of a Technology Base Incubation through the managers' view;
- The way on how the installation was conduced by the managers influenced the success of the incubation business;
- How is involvement of managers in the development of managers in the development of the incubator;
- Which are the most used tools in the incubation business management;
- Which is the manager, the institutions and the own incubator contributions on the formation of the incubation strategies.

It is necessary to identify or understand the contribution of the incubation business strategy for the performance of its administration.

3- Research Method

At the beginning, the study will have and exploratory part, whose objective consists on the first characterization of the problem, its classification and definition. It was so, the first phase of the scientific research. It is not the objective to solve the problem immediately, but only notice and characterize it. (Ruiz et alli, 1995, p.50). The exploratory research will be accomplished from the questionnaires, secondary information (bibliography, documents etc) and the study of selected cases.

According to Tenca(2001, p.8) the exploratory research has its orientation in the "discovery of ideas and institutions related to the theme. So[...], the methodology and planning of the research must be flexible to approach different aspects of the phenomenon studied". According to Gil (1987, p.4) "the exploratory research has the main objective of developing, clarifying and modifying concepts and ideas, seeking the formulation of more accurate problems or researchable hypothesis for farther studies. From all kinds of research, these are the ones which present less harshness when planning. These research usually involve bibliographical and documental data, interviews with no standard and a study of case".

Due to the few names found in the bibliography about the theme studied, Sellitiz et alli (1974, p. 61) states that "problems in which the knowledge is very little, the exploratory research is the most adequate. Sometimes, there is a tendency in underestimating the importance of the exploratory research and considering, as scientific, just the experimental research. However, for the experimental research to have a theoretical and social value, it has to be meaningful for other issues, greater than those proposed in the experiment. This meaning can only result from the adequate exploration of the dimension of the problem studied in the research".

According to Tenca(2001, p. 8), the exploratory studies "have the main objective of identifying problems, and formulating new action plans. This kind of study can be used to raise more accurate hypothesis or formulations tied directly to father described researches".

The sample in this study is chosen by convenience, a non probabilistic, technique, that according to Malhotra (2001, p. 306) "tries to obtain a sample of convenient elements. The selection of the unities is make by the interviewer. Not rarely is an interviewer chosen because he is the right place at the right moment".

The analyses is qualitative, using interviews with experts on the subject and analysis of secondary data. Thus, it will be possible to formulate a problem or to it precisely, to understand it better, to identify alternative action plans, to develop hypothesis, and to try getting standards to develop a problem approach or to establish priorities for father studies.

The conclusion obtained from the proposed interviews in this study, will be validated only for the sample of incubations studies.

4- Characteristics of the Model of Technology Base Business Incubations

Nowadays "the growth of enterprises in a competitive environment depends, partially, on its capacity of innovation, through its different products and services. This difference corresponds to the introduction of a new competition rank among enterprises with the effort of overcoming their limitations and increasing the growing rate. The success of the differentiation of new products depends on potential consumers, the ability to analyze the changes introduced and the stability of evaluation standards" (Guimarães, 1997).

To achieve a differentiation in products and services; the investment, the Human Resource and partnerships for the development of a project are extremely high and also have a risk which many enterprises prefer not to have and then, keep on acting without the introduction researches for the development of news top line products. This way, the new technologies are usually found in big research centers created and maintained by big enterprises which have enough investment to sponsor new projects in R&D. "Among the mechanisms and institutional enterprising arrangements which facilitate the transformation of the knowledge about products, process and services, the incubation in enterprises is outstanding in which the active participation of the people who make researches and technological activities in universities and other technology institutions, is very important. A context in which the knowledge, the efficiency and quickness in the process of innovation start being the decisive elements for the economical competition, the incubation process is crucial so that the innovation can happen within the time of supplying the demand of the market. Because of this, it is possible to assure that the incubation can fulfill with efficiency the main role in the enterprise creation process (Lezana et alli, 2002, p.2).

Related to developed countries, this practice of creating technology base enterprises, by means of incubations process or technological poles, became common which agrees with the words of the research above, related to the current technology used in these countries.

The incubation are not necessarily responsible for the development of technologies, but according to a bibliographical data, they have an important role in this current technology. With the development of technological base incubations, we can assure that it is "an efficient process for the technology transference and for the institutional cooperation between the university and the enterprise, most specifically mid-size enterprises" (Morais et alli, 1997, p. 13).

We can notice that the incubation is a mechanism that can stimulate the creation and improvement of micro and mid-size technological base industries or services companies, by means of additional formation of the enterpriser in the technical and management areas, and besides that, it facilitates the process of technological innovation.

It is considered that "the main proposal of the incubation is to support the new enterprises so that the products created from the research and development can reach the potential consumers" (Schlupp, 2001).

"An incubation must be what the enterprises seek in it: a service network, knowledge, experience, support and a pleasant environment for relationship" (Sampaio et allli, 2001) and not only to supply some kinds of management services and physical infra structure. In an incubation, "enterprises seek more than the incubation service", they seek "the intellectual capital of the institution, this is, the enterprises, the teachers, the trademark, the support for the strategic plan. Before seeking an equipped place, the enterprises seek the knowledge about the incubation environment, the professionals and teachers involved in its activities and the innovation generated in the university" (Sampaio et alli, 2001). It would not be necessary to generate and incubation "as a single workplace, it would not make the business a success. Only with good partnership and the seek of new projects with differential and potential aspects for the market, among other things, will

the incubation be not only a single workplace without any relevant difference, and it will also make the incubation an important tool for the foment of the economical development.

For the enterprises, the technological base incubation is a physical place, where a set of enterprises, called incubators, develop products or redeem services for technological area, remaining within a period of time, in favorable conditions, related to costs, infra structure and management support. The technological base incubations can also maintain projects of established enterprises, to develop new technology products. With the passing of years, new models of incubations appeared, such as the traditional, which incubates enterprises whose products are not intensive in intellectual content, for example, shoes or clothing enterprises, and also the mixed incubations which accept enterprises independently from the intellectual content of their products, of both kinds.

However, new models are being developed out of Brazil, due to the improvement of the movement, after decades of using incubations as development tools. According to Albert (2002, p.08), the incubation can have the following classification: Local Economic Development Incubators, Academic and Scientific Incubators, Corporate Incubators and Private Investors Incubators. Each of them has specific characteristics according to the financial origin, the management structure, the objectives, the main activities, the benefits they offer among others. The following table shows the difference among them.

	Local Economic Development Incubators	Academic and Scientific Incubators	Corporate Incubators	Private Investors' Incubators
GOAL	Non-profit	Non-profit	For Profit	For Profit
MAIN ACTIVITY	Generalists	High-Tech	High-Tech	High-Tech
OBJECTIVES	 job creation re-industrialisation / revitalisation economic development support to particular target groups or industries development of SMEs and clusters 	 commercialisation of technologies development of entrepreneurial spirit civic responsibility image new sources of finance 	 to develop entrepreneurial spirit among employees – keep talents monitoring - access to new technologies and to new markets profits 	 profits by selling stocks from a portfolio of companies allowing to risks to be spread. co-operation between companies within the portfolio
TARGETS	 small commercial craft or service companies. In some cases, high- tech companies. 	 projects internal to institutions prior to company creation external projects 	 internal and external projects, generally related to the activity of the company. 	 technological start-ups generally ICT related
OFFERING	 hosting and shared services administrative assistance consulting <u>Eventually</u>: -coaching –training- networking -access to financing 	 concept testing technical advice and support intellectual property advice seed capital basic management advice <u>Eventually</u>: access to business angels and venture capitalists access to industrial networks strategic advice coaching hosting 	 financial resources prototype and market testing access to commercial markets <u>Eventually</u>: long-term strategic partnership Access to multiple competencies 	 management and strategy advice supply of one or several types of financing and search of complementary financing. personal networks <u>Eventually</u>: hosting and administrative assistance legal services, public relations, recruiting, etc

Table 1: Types of Classification for Enterprise Incubators

	Local Economic Development Incubators	Academic and Scientific Incubators	Corporate Incubators	Private Investors' Incubators
KEY PROBLEMS	 durability –lack of stability of resources quality of management and provided-services - highly dependent on the quality of the manager governance, risk of conflicts about the objectives, bureaucratic red-tape, time spent in negotiating with the different partners. 	 legitimate inside the institution legal status, governance, independence and operational flexibility. income sources management quality access to external resources and network . 	 Strategic position Strategic position of the incubator for the corporate structure. management independence and ability to mobilize internal resources. Durability of the mission of the incubator conflicts about the objectives between the owners / the managers of star-up and the company. 	 quality of projects sourcing level and conditions of the incubator payment in comparison with provided services . valorisation of the incubator's participation at the entry and the liquidation. durability of the incubator
TRENDS	 regular development. increasing territorial coverage 	 rapid development under the aegis of public programs. 	 testing of the concept in numerous companies likely to develop 	 high levels of consolidation and restructuring of the sector. still looking for a successful model.

From: Albert (2002) - Incubators: The Emergence of a New Industry.

4.1 - Models of management and implementation of enterprise incubator

By means of the data presented in this study, it is notices that several requisites or preconditions must be followed when implanting an incubator. The most important requisite was the selection of the incubator manager's outline; the region where it will be established, and a rigorous selection of the companies where it will be implanted.

However, among the factors cited above, several others are critical for the success of the incubator implantation all these factors were analised by different authors (Sampaio, 2001and 2202; Morais, 1997; Oliveira, 2000; Lezana, 2001; Dornelas, 2002; Hoeltgebaum, 2002), and form the analisis of these studies, a set of items was elaborated to summarize these aspects so that the most important ones are presented, as shown in the following discussion.

a) *Clear strategic plan for incubation*: it is fundamental to prepare a clear strategic plan for incubation, because you will have in it the short term and long term goals which you manage to achieve. This plan, however, has to count on the participation of partners and managers responsible for the incubator and its elaboration. It should include the responsibilities and obligations of the members, assuring then, the probability of success and maintenance of the project.

b) *Procedure Program*: the elaboration of internal procedures, like an everyday evaluation in incubation enterprises, is fundamental, so that we can monitoring the performance of the incubation business and the right measures can be taken when necessary in order to facilitate the enterprise, it means that it is important to have a technical plan to establish and operate the incubator.

c) *Partnership with Universities and/or Research Centers*: this point has shown being of an essential relevance. These partnership being formal or informal, can be benefit both parts, because the incubators becomes a means of transferring technology between the university and the market and the university can also be a means of generating technology, innovating and offering new

enterprises to the incubator. Things like, including the incubator in the structure of the study and research institution, has shown great importance for the success of its planning, because it assures long-range relationships, and can also helps in new relationships. According to ANPROTEC (2002) data, from the total number of incubators in the country, 72% have a formal link with universities on research centers and only 4% do not have any kind of link with these institutions.

d) *The selection process in the incubation*: this procedure tries to avoid projects to have critical errors that can damage the incubation success. The success of each enterprise will determine the future and permanence of the incubation activity, because if it is not able of generating solid enterprises in the market, its function can be contested and the incubator can be closed. Thus, an incubator in incubation program has to possess measurable objectives, such as, to raise the enterprise formation rate, to decrease the failure rate of new enterprises, to increase the development rate in new enterprises, among others. Some important points to select the projects are: the technical and economical viability, the innovation and competitiveness of the project, the qualification of the group, the importance of the enterprise for a set of incubation companies and the link between the project and a university and/or a research center.

e) The definition of objective proved indicators to accompany and evaluate actions of the implantation project of the incubation: the study of enterprise viability must be done in order to implant efficient incubators which can growth and exceed the regional limits, getting integrated to other institutions inside and outside the country, making the incubator competitive in its own market. The study of the viability will involve the analisis of topics, such as: the justifications for incubation generation (the SWOT analisis, for instance, is a way of justifying the generation of the enterprise); the potential customers for the business try to mapping the potential projects and enterprises in a certain region, to assure a demand which justifies the incubator will be installed, to characterize the market and enterprises outline; the member arrangement in the incubation (the ones responsible for each partner institution, their role, the amount of financial source that each partner will have to dispose, the justification each institution has to take part in the project etc). These indicators can set the course of the incubator installation project. The following table summarizes these items.

Topics	Items to be Evaluated		
Justification for the incubation	- Reasons to implant a business incubation;		
creation	- Analisis of the physical space necessity;		
	- Benefits expected;		
	- Expenses estimated.		
The partner institutions	- Outline and motivation;		
	- Roles and responsibility;		
	- Setting of financial and/or economical resources by the partners;		
	- Justification for the participation.		
Productive sector outline, the	- Economical calling of the region;		
enterpriser and market	- Company outline;		
	- Demand of services, support and place.		
Local Community	- Community interest;		
	- Informal sector engagement;		
	- Knowledge about the incubation system dynamics.		
Clients	- Outline of the interested companies;		
	- Action directed to the enterprise.		

Table 2: Important topics for the implantation project of the business incubation

Livro Texto, Brasília 2002

f) *Teaching of enterprise*: to spread the enterprise culture in the place the business incubation will be installed: teaching the community members, concepts and ways of identifying opportunities to

convert them in a business success. Even with high incubation growing rates in Brazil, several faults are pointed out by researchers. These faults are found in the way of structuring and planning the incubator by the organs or partners interested in this enterprise. A method found in the research, points out that the enterprise success which grows inside the company incubations depends on the relation between the incubator candidates and the company selected for that. Raising this rate, we suppose that it would increase the quality of the selected products the chances of the company success would be higher after the incubation period. It is pointed out that while the international statistics shows that the ideal is to have form five to ten candidates for a vacancy, in a significant part of the Brazilian incubators analysed; there was practically the same number of candidates and vacancies. We verified that companies which did not gather the set of conditions stipulated for admission were accepted. In other words, the problem concentrates in the low interest of the candidate in becoming enterprises by means of incubators. Only 25% of the Brazilian incubators possess 100% of enterprise incubation rate, which shows being a low index with probably, a lack of knowledge of the enterprisers about this kind of support tool. The teaching of the enterprise contributed to the creation and establishment of an enterprise network which allows the close relationship with other prosperous enterprise incubators in other communities, to attract new enterprisers to reduce the difference in phase of candidate/vacancy in incubators; to promote a better awareness in the community in relation to the enterprise incubation; to stimulate youngsters became a new enterprisers, among other contributions.

Others items can be cited, such as: the community support in the general where the incubator is inserted; access to financing and investments to accomplish incubated enterprises; good infra-structure installations to guarantee an adequate operation of the incubated enterprises the hiring of manager with an adequate outline for this kind of enterprise; nice relationship with the media so that they can show works developed in the incubator; to get the medium incubation time within the standard of the best incubator models in the world (from 2 to 3 years); physical location, among others.

However, besides these information for the implantation of the incubator, we point out that this group of people responsible for it, according to Lezana et alli (2002), will have to promote the consolidation of their interests and resources, improving the personal performance of each member of the group so that can recognize and consider the different interests, behaviour and personality of each one.

We can notice that in an incubator implantation several factors are important for its success. We must not consider that there are only the factors presented in this study. Other aspects should also be considered, yet it is not the purpose of this study, to find all the factors but only to point out the most important ones form the bibliography.

5- Incubation in the National Scenario

After some changes in the international economical scenario, we observed that new tendencies arouse because of these alterations. One of them, occurred in Brazil, according to Hoelthebaum (2002, p.2), it was "the increasing in the percentage of participation in mid-size companies in the economy. Proving this fact, we observe in Brazil between 1990 and 1999, the constitution of 4,9 million enterprises, among which, 2,7 million are micro".

However, besides the significative number of micro and mid-size companies which appeared in the country, studies show that after their opening, these companies work in the market for a few years. According to data from SEBRAE (1999), the small, micro and mid-size (SMM)

companies stop to operate one rate varied from 30% to 61%, in the first year of existence, from 40% to 68% in the second year and from 55% to 75% in the third year of working.

According to Quadros et alli (2001, p.207), when analising data from PAEP, we verified that the technological innovation is still a little representative in companies with a number of employees between 5 and 99.

In this set of companies, only 21,7% have or had any innovation. The difference is significative when we compare these mid-size companies to companies with more than 500 employees.

Big companies have an innovation rate of 69,7%, a quarter (1/4) of them, is responsible for 68% of the innovation created in São Paulo state. Even so, we have to point out that S.P. state has innovation rates higher than countries such as Australia and Spain, but it does not mean a significative relevance, because such countries are not reference for the technology development.

In this context, the raising of incubation enterprises and technological parks can b observed in the national scenario and become important support tools for SMM, in order to decrease the early rate of companies that stop to operate too soon.

"In Brazil, these are several examples of high-tech enterprises which appeared in favourable places, because of the technological and scientifical infra-structure existent in such places; the distance from industrial poles, and also, through the initiative of teaching and research centers - it is from scientific and technological knowledge - foment enterprises, having as a basis special incubation environment and technological parks"(Schlupp, 2001, p. 54). This way, according to Kildegarde apud Santos (2001, p.56) "these companies have some participation in the social, economical and technological development of the country, because they benefit the nationalization of products, the technology transference, the valorisation of technological and scientifical system, the impact on all the sectors of the economy, the creation of excellence poles, the entrance in innovation sectors and with this, they have a better probability of success in relation to traditional technological companies."

According to the 15 year activity report from ANPROTEC (2002, p.35), there is an optimistic view on the incubation movement in Brazil. The way of acting and thinking of different organs which promote incubation in Brazil is detached. It was observed in late 80's and early 90's, a favourable gathering of conditions - seeking for technology which incorporate more and more a high knowledge level, the awareness about the need of an enterprise, and growing of universities and research centers - the conditions start promoting an effective support for the students, in relation to the theme, getting, in some cases, helping them to open their own enterprise. This gathering of factors, in not so favourable economical tendencies in Brazil, made the country to have considerable increase in the number of incubations, started being seen as a fundamental tool for the local, regional and consequently national development.

In 1993 there were 16 incubation enterprises in Brazil, and each of them was composed by 8 incubated enterprises. According to Medeiros (1995), the data collected in his research allowed him to assure that about 30% was the rate of companies that left the incubations.

Nowadays, the "death" among enterprises which are generated from an incubation is 20% and out of this system, the number surpasses 70% (PEGN, 2002, p.65). According to the Panorama 2002 (ANPROTEC), there are in Brazil, 14% of mixed incubators 29% traditional and 57% technological incubators. Upon analyzing the evolution of technological base incubation in Brazil, it was observed that the percentage of incubators installed nowadays is smaller if compared to that in 1999 (64%). However, the data prove that the technological base incubators in the country, are more relevant if compared to other kinds of incubators which had a faster growing recently. The Brazilian states with a bigger number of incubations are those from the south, with 84 in operation and from the southeast with 63 in operation.

The technological base incubations have an important role in stimulating the participation of scientific community and people with technological formation qualified to promote the development of new products and try to insert them into the market. This mechanism of transference has attracted a significant number of professionals, as shown in Panorama 2002 (ANPROTEC), in which 27% of the responsable people for incubation projects are engineers, the remaining are chemists, biologists, among others. It is also pointed out that the level of instruction in these incubation enterprises is predominant from the academic formation or post graduation in a total of 49%. Quadros et alli (2001) emphasizes that the number of researchers involved in the development of products or innovation process, are still incipient if compared with Hi-tech countries such as Japan, Germany and USA.

In Brazil, little by little the authorities and even the academic and enterprise community, are giving value to the incubation enterprises as important tools for local and national development. Due to this fact, the formal partnership with study and research institutions grows every year. According to Morais apud (1998,p.19) the main deficiencies pointed in 1996 in relation to Brazilian incubations were: the lack of culture to establish partnerships with universities and research centers; lack of tradition in the associative work, precarious accompaniment and management, faults in services to incubators, bad-prepared management group, predominance of private political interests in the projects; bad dimensioned physical structure, and the like.

However, it is possible to notice that there was a significative evolution in several deficient points cited above about the incubation movement in Brazil. This is due to the growing of this movement, the professional improvement of people involved in the management and administrative process in an incubator, the raising and growing of new partnership fomenting this movement (governmental and non governmental entities), the spread of technical information about this theme etc. It is concluded that the national movement has a high rate of performance and growing compared to developed countries, and that the future is promising allowing the collaboration with the economical development of the country.

6- The Managers' Role in Incubation Enterprises

In spite of the importance, the manager's role, as one of the factors for the success of an incubation, was still very little explored. The emphasis in the peculiarity of the manager's outline and its influence on the incubation performance is also little known.

From the technological base incubation managers acting in Brazil a great number has an academic formation, and in some cases also a post graduation formulation. According to ANPROTEC data (Rousso et alli, 2002, p. 07) 83% of the professional directly involved with the technological base incubation management have a complete college formation. And from these professionals, 40% have a post graduation course, and 20% are masters or Doctors. This is an outstanding number which calls our attention because of the capacity of the professionals involved in the incubation management process. In the data found in Panorama 2002 (ANPROTEC), there is a multidisciplinary participation in relation to the formation of incubation managers, which is basically composed the following way: 36% graduated in Business Administration, 19% in Engineering, 11% in Computing and the other percentage among Communication, Economy, Accounting, Biology, Chemistry, Laws etc.The academic origin is pointed out by Rousso et alli (2002) and most of the enterprises are resident in technological base incubation areas.

This fact might have a negative effect in relation to the incubation management performance. This would be so because of the fact of not having a practical effective experience and contact with the peculiar characteristics of the market by the incubation managers, making them more prepared to act directly in this job. With the proposed study, the results will probably show that such affirmations can be contradictory, because other factors were not deeply studied such as the kind of formation of the incubation managers, and their performance in managing; or even the consulting practice developed during the staying in the academy, the practical experience acquired, and also the fact of acting for some time inside the academy can damage the managing performance in the market, and this can be a surpassed view on the subject.

The study accomplished in Santa Catarina State, in relation to data obtained from incubation enterprise managers, verified that some problems are common and were pointed out as the main situation faced by them. They are: (1) few number of interested people with an interesting project presented for existent vacancies; (2) the members if incubation enterprises do not dedicate themselves to the project as much as they should; (3) lack of managing knowledge (were the most cited: they do not know the market/lack of market research/ ability for sales); and (4) they do not get sponsors for their projects (they only resist the first years with scholarships and accords). According to the study and the collection of data, it can be assured that a real opportunity for business together with an enterprising group and a well done business planning, could be the nearly ideal solution for the generation of new successful businesses.

Other important aspects in relation to the manager's outline are those of having an enterprise feature in which virtues like point of view, engagement, leadership, creativity, obstinacy, and enthusiasm are indispensable. According to Pereira (2002, p.83)"we can not forget that the key for success in an incubation process is the group, from that, we notice the importance given to the selection process and training of people involves in this activity, specially the incubation manager, the main character in enterprise support growing". In other words, the manager role is fundamental to assume the incubation enterprise success.

7- Conclusion

In this project, a bibliographical raising was done to deeply develop the theme. After this, it was observed that there is a need of deeper studies on how the technological base incubations in the country are managed. This is due to the fact most of the studies published, are studies of isolated cases, bibliography review, discussions on how methodologies are applied to implant or manage the business incubation etc. This is a lack referring to the incubation manager's role in the implantation process and a search for the enterprise success.

Although this study still has not been concluded until the sending of the date limits, for other reasons that delayed the official schedule of the research, in the Congress the complete version will be presented with. With that analyses it will be possible to identify new points and emphasize other important points already studied.

8-Bibliography

ALBERT, et alli. Incubators: the emergence of a new industry. A Comparison of the actors and their strategies: France - Germany - UK - USA. CERAM Sophia-Antipolis, janeiro de 2002.

AZEVEDO, José Eduardo e CHIERIGHINI, Tony, 2001 . **35 lições que aprendemos nos 15 anos de existência da CELTA**. **As incubadoras de empresas pelos seus gerentes: uma coletânea de Artigos -** Volume 2. Associação Nacional de Entidade Promotoras de Tecnologias Avançadas – ANPROTEC; organizado por Sayonara Leal e Sheila Oliveira Pires. – Brasília, 2001.

BARBOSA, Paulo José. **A incubação de empresas de base tecnológica em Pernambuco.** TECBAHIA, R. Baiana Tecnol., Camaçari, v. 10, n. 1, p. 63-68 jan/abr. 1995.

DORNELAS, A. José Carlos, Plano de Negócios para Incubadoras: A experiência da Rede paulista de incubadoras de empresas, Belém, 2000.

DORNELAS, José Carlos Assis. **Planejando incubadoras de empresas: como desenvolver um plano de negócios para incubadora**. Editora Campus. Rio de Janeiro, 2002.

GIL, Antônio C.. Métodos e técnicas de pesquisa social. São Paulo: Atlas, 1987, p.44-55, apud TENCA, Evandro C. Implementação de Marketing para pequenas empresas: um estudo exploratório sobre empresas do Centro Incubador de Empresas Tecnológicas de São Paulo. São Paulo: EAESP/FGV, 2001. 9 p. (Dissertação de Mestrado, Administração de Empresas).

GUIMARÃES, Eduardo Augusto. A Acumulação e o Crescimento da Firma. Editora Guanabara. Rio de Janeiro IRJ-1987, apud SCHLUPP, Hildegarde. Desenvolvimento de empresas de base tecnológica na incubadora. As incubadoras de empresas pelos seus gerentes: uma coletânea de Artigos Volume 2. Associação Nacional de Entidade Promotoras de Tecnologias Avançadas – ANPROTEC; organizado por Sayonara Leal e Sheila Oliveira Pires. – Brasília, 2001.

HOELTGEBAUM, Marianne et alli. Novos Mecanismos de Incubamento de Empresas de Base Tecnológica. XXII Simpósio de Gestão da Inovação Tecnológica, categoria: Artigo Científico. Salvador, 2002.

LEZANA, Álvaro Guilhermo Rojas e NEERMANN, Eviline Maria Varela. **Uma visão inovadora das novas tendências para projetos de implantação de incubadoras**. *World Conference on Business Incubation*, Rio de Janeiro, 2001.

LIVRO TEXTO, Curso: Planejamento e implantação de Incubadora de Empresas, Brasília, 2002.

MALHOTRA, Naresh K. **Pesquisa de Marketing: uma orientação aplicada**. Trad. Nivaldo Montingelli Jr. E Alfredo Alves Farias. - 3º Edição - Porto Alegre: Ed. Bookman, 2001.

MEDEIROS, José Adelino de et ali. Pólos, parques e incubadoras: a busca da modernização e competitividade. Brasília: linha gráfica, 1992.

MEDEIROS, José Adelino e ATAS, Lucília. **Incubadoras de empresa: Balanço da experiência brasileira**. Revista de Administração, São Paulo v. 30, janeiro/março 1995.

MIAN, Sarfraz A. Asseting value-added contributions of university technology business incubators to tenant firms. Elsevier Science B.V. Nova York, 1996.

MORAIS, Edvalda F. C. et alli. Manual de Acompanhamento e Auto-Avaliação de Incubadoras e Empresas Incubadas. Editora Universidade de Brasília. Brasília, 1998.

OLIVEIRA, José Rodrigues de. A incubação de empresas de base tecnológica do Estado de Pernambuco – INCUBATEP: uma experiência de sucesso. Belém, 2000.

PEGN. Revista Pequenas Empresas Grandes Negócios. Editora Globo, nº 166. São Paulo, Novembro de 2002.

QUADROS, Ruy, FURTADO, André, BERNARDES, Roberto e FRANCO, Eliane. Technological Innovation in Brazilian Industry: An Assessment Based on the São Paulo Innovation Survey. Technological Forecasting and Social Change 67, 203-219 (2001).

ROBBINS, Stephen P. **Comportamento Organizacional**. Livros Técnicos e Científicos Editora S.A.. Rio de Janeiro, 8º Edição, 1999.

RODRIGUES, Rosane Andrade & RIBEIRO, Duperron Marangon. **Projeto e Planejamento estratégico de Incubadoras de Sucesso**. *World Conference on Business Incubation*, Rio de Janeiro, 2001.

ROUSSO, José, CARNEIRO, Antônio José da Cunha & EPSZTEJN, Ruth. Gestão estratégica de incubadoras de empresas de base tecnológica: novos atores. *World Conference on Business Incubation*, Rio de Janeiro, 2001.

RUIZ, J. A. Metodologia Científica. Publicação Atlas, 1995.

SAMPAIO, José Alberto Aranha e DIAS, Carolina. Sistema de gestão da incubadora de empresas do Instituto Gênesis da PUC-Rio. As incubadoras de empresas pelos seus gerentes: uma coletânea de Artigos - Volume 2. Associação Nacional de Entidade Promotoras de Tecnologias Avançadas – ANPROTEC; organizado por Sayonara Leal e Sheila Oliveira Pires. – Brasília, 2001.

SAMPAIO, José Alberto Aranha, et alli. **Modelo de Gestão de Incubadora de empresas; implementação de modelo de gestão para incubadora de empresas**. Rio de Janeiro, Rede de Tecnologia do Rio de Janeiro, 2002. 116p.

SANTOS, Silvio Aparecido. **Criação de Empresas de Alta Tecnologia, Capital de Risco e os Bancos de Desenvolvimento**. Editora Pioneira. São Paulo, 1987, apud SCHLUPP, Hildegarde. **Desenvolvimento de empresas de base tecnológica na incubadora**. **As incubadoras de empresas pelos seus gerentes: uma coletânea de Artigos** - Volume 2. Associação Nacional de Entidade Promotoras de Tecnologias Avançadas – ANPROTEC; organizado por Sayonara Leal e Sheila Oliveira Pires. – Brasília, 2001.

SEBRAE. Microempresas/Pesquisa: fatores condicionantes e taxa de mortalidade de empresas. Edição: Brasília: SEBRAE, 1999. Pesquisa realizada no dia 13/01/2002 no site www.sebrae.com.br

SCHLUPP, Hildegarde. **Desenvolvimento de empresas de base tecnológica na incubadora. As incubadoras de empresas pelos seus gerentes: uma coletânea de Artigos** - Volume 2. Associação Nacional de Entidade Promotoras de Tecnologias Avançadas – ANPROTEC; organizado por Sayonara Leal e Sheila Oliveira Pires. – Brasília, 2001.

SELLITIZ et al. Métodos de pesquisa nas relações sociais. São Paulo, EPU, 1974. 687p., apud TENCA, Evandro C. Implementação de Marketing para pequenas empresas: um estudo exploratório sobre empresas do Centro Incubador de Empresas Tecnológicas de São Paulo. São Paulo: EAESP/FGV, 2001. 9 p. (Dissertação de Mestrado, Administração de Empresas).

SMITH, Adrian. **Incubating the future of biotechnology**. Pharmaceutical Science and Technology Today. PSIT Vol. 1, No. 6. Setembro de 1998.

SPOLIDORO, Roberto. Habitats de inovação e empreendimentos: agentes de transformação das estruturas sociais. TECBAHIA, R. Baiana Tecnol., Camaçari, v.14, n. 3 p-9-21, set./dez. 1999.

VIEIRA, Valter Afonso. As tipologias, variáveis e características da pesquisa de marketing. Rev. FAE, Curitiba, v.5, n.1, p.61-70, jan./abr. 2002