

PERFORMANCE OF A PRE-INCUBATION PROGRAM AS A CATALYST FOR INNOVATIVE ENTREPRENEURSHIP

Received on: 14/02/2019

Approved on: 18/02/2019

Kamila Frizzo¹

Maria Carolina Zanini Ferreira²

Francies Diego Motke³

Beatriz Maffini Gomes⁴

Clarissa Stefani Teixeira⁵

Silon Júnior Procath da Silva⁶

ABSTRACT

In late 2014, the Federal University of Santa Maria (UFSM) created the Innovation and Technology Transfer Office (AGITTEC) with one of the goals to create a technology incubator. To achieve this, the university launched a pre-incubation program in order to train potential entrepreneurs. The program aimed to select technological development projects that had not yet found a company and required basic initial training. Therefore, the pre-incubation program and its performance among those involved (participants who completed the program, mentors, and lecturers) were analyzed and described in a descriptive and quali-quantitative manner. Questionnaires for performance analysis of the services provided were elaborated from the structure and program activities and composed of closed questions in which respondents indicated on an interval scale of 1 to 5 (lowest to highest level of assessment) or the option “does not apply” (represented by the number zero). The results concluded that the pre-incubation program was essential for all participating projects by showing which activities should be prioritized in future programs.

Keywords: Performance Evaluation. Mentoring. Business Plan.

1 Graduation and Masters in Administration by the Federal University of Santa Maria, UFSM. She is currently a PhD student in the Postgraduate Program in Administration, PPGA / UFSM.

E-mail: Kamila.frizzo@gmail.com

2 Graduation in International Relations at Curitiba University Center. Currently, she works in Research Projects of the Federal University of Santa Catarina, UFSC.

E-mail: mariacarolina.zanini@gmail.com

3 Graduation and Masters in Administration by the Federal University of Santa Maria, UFSM. He is currently a PhD student in the Postgraduate Program in Administration, PPGA / UFSM. E-mail: fdmotke@gmail.com

4 Graduation in Civil Engineering by Federal University of Santa Maria, UFSM. She is currently a Master's student in Civil Engineering at the University of São Paulo, USP. E-mail: mgsbeatriz@gmail.com

5 PhD in Production Engineering by Federal University of Santa Catarina, UFSC. She is currently a professor at the Department of Knowledge Engineering (EGC) at UFSC. Professor in the Post-Graduate Program in Engineering and Knowledge Management and in the Professional Master's Degree in Intellectual Property and Technology Transfer for Innovation (PROFNIT). E-mail: clastefani@gmail.com

6 Graduation in Agronomy by the Federal University of Santa Maria, master's degree in Agronomy / Phytosanitary / Pest Control by the Federal University of Pelotas and PhD in Agroindustrial Science and Technology by the Federal University of Pelotas. He currently serves as the Entrepreneurship Coordinator of the Innovation and Technology Transfer Agency of the Federal University of Santa Maria, UFSM.

E-mail: silonjunior@gmail.com

1 INTRODUCTION

In a constantly changing society, universities play a significant role by using information, knowledge, and especially innovation as their competitive advantages. Thus, the aggregation of value in products, processes, and services has become increasingly important for creating an innovative ecosystem. With highly qualified human resources capable of transforming intellectual capital into benefits for society, new environments, habitats, and programs are created that aim at stimulating and developing intellectual capital through the creation of new technology-based companies.

According to Lucas (2001), entrepreneurship training has received massive investments over the years in a formal process of entrepreneurship learning. Despite the consensus that society is in constant transformation, companies compete to deliver products (goods and services) with higher added value, and many have little innovative performance or only an idea of what it is, or even do not know where to start (IATA; ZIMMER, 2016).

This scenario demands organizational managers to adapt as they end up being forced to seek new skills and conditions for their enterprises to survive, which results in the need for training people capable of disseminating innovation, that is, people who are better prepared to insert their businesses in the market (LUCAS, 2001). Universities, which produce knowledge, play a fundamental role as they have highly qualified human resources and intellectual capital with the capacity to improve entrepreneurship and consequently create technological solutions resulting in the improved capacity to undertake such innovations and make them accessible to the market and society (MATO GROSSO STATE SECRETARY OF SCIENCE, TECHNOLOGY, AND INNOVATION, 2015).

To strengthen such assets, the Innovation and Technology Transfer Office (AGITTEC, *Agência de Inovação e Transferência de Tecnologia*) of the Federal University of Santa Maria (UFSM, *Universidade Federal de Santa Maria*) implemented a pre-incubation program. The purpose of the program was support entrepreneurs who did not have a formalized company or tangible business by providing tools, services, and institutional support to promising and technically feasible ideas.

The study of nuclei that stimulate innovative entrepreneurship is recent and relevant, as it positively affects the society they belong to. Thus, it is relevant to evaluate the process adopted as the first institutional pre-incubation program of UFSM and that it encourages technology-based ventures to develop their business model, fostering entrepreneurship in the region. The city of Santa Maria is referred to as the "Talent Exporter City" since it provides professional training in practically all areas of knowledge at undergraduate and postgraduate levels (masters and doctorates). Despite the title, it is unable to retain professionals due to lack of opportunities that acknowledge these agents of high intellectual value.

Considering that the program is of great importance in stimulating entrepreneurship and technological innovation and aiming at continuously improving the pre-incubation process, the pre-incubation program and its performance among those involved (participants who completed the program, mentors, and lecturers) was analyzed and described.

2 - THEORETICAL BACKGROUND

Concepts relevant to innovative entrepreneurship and entrepreneurship and innovation development centers are briefly contextualized.

2.1 INNOVATIVE ENTREPRENEURSHIP

According to Dolabela (1999), entrepreneurship involves any innovation that has a relationship with the prosperity of the company, in order that the enterprise grows in the economic and changing environment it is inserted in. Innovation corresponds to a specific tool of entrepreneurs, the means by which they exploit change as an opportunity for different businesses (DRUCKER, 1985). Schumpeter (1997) defined innovation as a process characterized by the discontinuity of what is established, in which development occurs from new combinations through the production of new or the same things by using different methods.

Considering that innovation consists of developing previously existing products, processes, methods or systems, or a new feature developed for already existing products, processes and/or services with socio-economic repercussions for the market (OECD, 1997), entrepreneurs need a management method equivalent to the process they want to implement. This is because the organizational structure implies the need to change the profile of organizational managers, who need to overcome different obstacles and tendencies generated in the innovation process, which can become degenerative (SOUZA, 2011; DRUCKER, 1985).

Therefore, this scenario requires much more than the simple adoption of a method or process, but the development of collective learning within the organization or company (CLAIBORNE, 2007). Lazonic (2004) addressed the importance of social conditions being aligned with desired innovative outcomes. For this, strategic issues revolve around the agents' ability to plan where resource allocation is expected to address market uncertainty, with organizational integration or mechanisms that create incentives for people to apply their skills and efforts to generate results in their business. This may even guarantee financial support to maintain the innovation process until it is sustainable.

The Brazilian economy is still at an early stage of development in relation to the capacity to develop innovative enterprises (businesses that have high added value and growth potential). Thus, socioeconomic conditions end up directly implicating entrepreneurial potential derived from the fact that learning, which is an essential value in productive performance, is modestly diffused in the Brazilian population (PAROLIN, VOLPATO, 2008).

This difficulty in disseminating entrepreneurial culture in Brazil is evidenced in Santa Maria, which according to a survey by the Institute of Applied Economic Research (IPEA, *Instituto de Pesquisa Econômica Aplicada*) (2013), was the third municipality that most "exported" labor with higher education to the rest of the country, being only surpassed by Rio de Janeiro and São Paulo. This reveals the dilemma in retaining graduated students, hindering not only the formation of possible enterprises, but also the development and socioeconomic sustainability of the region.

Among the possible solutions of fostering innovation is the partnership between universities and companies, which considerably helps the formation process of potential entrepreneurs and develops and encourages not only innovative entrepreneurship, but above all, creates a culture of innovation in these environments through potential ideas and inventions that may become high-value-added companies (PAROLIN; VOLPATO, 2008). Therefore, UFSM stood

out in 2014 by occupying the 40th position and 15th position in 2015 as the largest depositor of the country. As for computer program deposits, it ranked 2nd in 2015 for the second consecutive year and 7th in industrial design deposits (INPI, 2015).

2.2 ENTREPRENEURSHIP AND INNOVATION DEVELOPMENT CENTERS

Implementing innovative practices requires multiple environments that favor them, which are the so-called innovation habitats that consist of “innovation systems or spaces to innovate” that are usually a conglomeration of diverse institutions that foster the capacity to innovate and the accumulation of knowledge of a place (LASTRES; CASSIOLATO, 2005; MACHADO et al., 2015). Habitats generally focus on four types of knowledge and innovation flows: interactions between enterprises, especially in joint research activities and other technical collaborations; interactions between enterprises with scientific and technological institutions (STIs), including joint research; dissemination of knowledge and technology to companies, encompassing new technological trends and innovation and diffusion through the provision of infrastructure for public and private innovation agents (universities, companies, among others); personnel mobility, focusing on the movement of technical personnel (*know-how*) within and between the public and private sectors (Organization for Economic Cooperation and Development - OECD, 1997b)

These spaces help the relationship between the innovation supplier and the receiving agent. The structure will depend on the development of innovations in its various stages of maturity and structuring and may be characterized as incubators, scientific and technological parks, nuclei of technological innovation, among others (MACHADO et al., 2015). Innovation Law (n. 10.973/2004) was established in this context and, recently, implemented by the new legal framework, Law n. 13.243/2016, which foresees Technological Innovation Nuclei (TIN), aiming to formalize the management of innovation in STIs (BRASIL, 2016; VAILATI et. al., 2012).

Technological Innovation Nuclei aim to promote the interaction of local innovation agents: the protagonists of actions by Research, Technological Development, and Innovation (RTI) and productive sector, generators and information providers focused on problem solving. Thus, these agents can generate programs such as pre-incubation, which basically consists of validating ideas and venture projects, taking into account their market viability, both in products and services, in order to create a company with high technology and growth potential (SANTOS et al., 2012)

At this stage, the company is still not formalized, nor does it have a viable and consistent business plan, product ready to be marketed or service to be offered (Sao Paulo State Government, 2016). For a limited period (usually 6 months), various services are offered regarding marketing, methods, and management issues. This is done in order that, at the end of the process, the pre-incubators of the program can establish a consolidated business plan with the aim of setting up their business, likely move on to the incubation process to mature their business in the future, and finally be placed in the market.

The pre-incubation environment must foster creativity and innovation. According to Bessant and Tidd (2009), this climate of creativity and innovation promotes the development, consideration, and use of new products, services, and ways of working, which foster the development, assimilation, and use of different approaches, practices, and concepts.

An entrepreneurial system requires the expressive participation of several players and entrepreneurial institutions through the insertion of small and large companies, universities, and sources of financing and support (BASSANT; TIDD, 2009). With this, universities contribute with knowledge derived from teaching, research, and act as entrepreneurial agents in the academic

environment. Through these initiatives, partnerships with established companies (mentors) and non-governmental organizations can be strengthened, thus reinforcing the triple-helix interaction (government, university, company), in addition to being able to receive the necessary support in the numerous demands that projects may have (SANTOS et al., 2012).

3 METHODOLOGICAL PROCEDURES

This is a descriptive study aiming to describe the AGITTEC/UFSM Pre-Incubation Program and analyze its performance among the participating agents. According to Lakatos and Marconi (2000), descriptive research aims to understand the nature of the studied phenomenon, the way it is constituted, and its characteristics and processes.

This study employs a qualitative and quantitative approach. The qualitative part of the research is justified by analyzing the empirical world in its natural environment, therefore, the direct contact of the researcher with the environment and situation being studied is valued (GODOY, 1995). Quantitative research, however, seeks to measure data and generally applies some form of statistical analysis (MALHOTRA, 2006).

As a research strategy, the case study method was used with multiple evidence, since it enables a more comprehensive study of an object and provides ample and detailed knowledge (GIL, 2010). The use of multiple data collection techniques is fundamental to guarantee a depth of study, insertion of the case in its context, and greater credibility of results (GIL, 2009). Therefore, data triangulation was carried out using internal AGITTEC documents, researcher observation, and questionnaires sent to those participating in the pre-incubation program.

Quantitative data was performed and collected through a survey that, according to Hair et al., (2005), consists of the collection of primary data from individuals. In this manner, questionnaires were prepared for each audience based on the structure and activities of the pre-incubation program. They contained closed questions on a 5-point Likert scale, being 1 the lowest evaluation score and 5 the highest. The number 6 represented "unable to comment."

Questionnaires were sent by e-mail to the pre-incubated entrepreneurs, lecturers, and mentors of the program. The target population consisted of 55 agents. Eighty-one percent (81%) of the pre-incubators and 71% of the mentors and lecturers participated, consisting of 42 questionnaires (76%). Data were tabulated and analyzed using the software Microsoft Excel and Statistical Package for Social Sciences (SPSS version 18) through descriptive data analysis by verifying response frequency.

4 RESULTS

The activities developed by AGITTEC/UFSM are described through the Entrepreneurship Coordination regarding pre-incubation program 1/2015. The structure, activities, and program are described and analyzed.

4.1 UFSM AGENCY OF INNOVATION AND TECHNOLOGY TRANSFER

The former Nucleus of Innovation and Technology Transfer (NIT), which is now known as AGITTEC/UFSM, was founded in 2015 with the purpose of integrating activities of intellectual property management, entrepreneurship, and technology transfer at the institution (AGITTEC, 2016). The agency has as one of its support pillars dissemination in the university com-

munity of an entrepreneurial and innovative culture based on the premise of UFSM's vision of the future, which consists of "being recognized as an institution of excellence in the construction and diffusion of knowledge, committed with the development of society, in an innovative and sustainable way" (UFSM, 2011).

4.1.1 Entrepreneurship Coordination

The AGITTEC Entrepreneurship Coordination focuses on the elaboration and management of institutional policies to stimulate entrepreneurship. Among its actions are support for innovation and the development of technology-based processes and products. The focus of the coordination is new enterprises, which have in their genesis the research carried out within the scope of the university. Therefore, promoted actions necessarily involve the participation of students, alumni, and researchers linked to the institution.

To fully develop entrepreneurial actions, it is important to involve students in programs that include education focused on entrepreneurship. In this manner, the Entrepreneurship Coordination has built partnerships with junior companies, graduate programs, and sponsored several events of the theme at the institution.

The coordination promotes innovative entrepreneurship through the pre-incubation and incubation process, in addition to having a coworking space under construction at its location, which is an innovation habitat. In view of the above, the Entrepreneurship Coordination and AGITTEC play fundamental roles by contributing to sustainable regional development through encouraging the creation and consolidation of new innovative enterprises, products, and technology-based processes and entrepreneurship education.

4.1.1.1 Pre-Incubation Program

Pre-incubation refers to the phase aimed at validating projects ideas, company planning and creation, and the possibility of developing possible business by analyzing technical and economic viability and entrepreneur profile. Therefore, the UFSM Pre-Incubation Program aims to support and prepare entrepreneurs who have an innovative design with business potential, assisting in the creation of legally formalized companies, building consistent business plans and product development or service ready to be offered to the market (or at least a prototype). According to Bessant and Tidd (2009), an innovative enterprise requires careful business planning, which is why obtaining support and external resources and developing a business plan is fundamental in clarifying the objectives and strategies of the new enterprise.

Launched in the second half of 2015, the AGITTEC/UFSM Pre-Incubation Program Publication Notice selected projects of innovative enterprises where applicants could use shared environments, receiving training packages, mentoring, orientation, consulting, and other supporting tools. During the pre-incubation process, 36 registrations were received, with 35 homologations. Candidates eligible for pre-incubation, who could submit projects, consisted of technical, technological, undergraduate, and postgraduate students of the university; faculty and technical administrative servers in education; researchers and entrepreneurs of private initiative, provided that the team possessed at least one student regularly enrolled at UFSM.

From the mean of the evaluator commission, which consisted of 6 professionals (represented by professors, entrepreneurs, and representatives of the Brazilian Micro and Small Business Support Service - SEBRAE and AGITTEC), 20 projects were selected. The projects in the first

three positions at the event Startup Weekend, which was held in Santa Maria in 2015, were automatically selected in the pre-incubation program. Moreover, the Evaluation Committee addressed the need to provide feedback to those not selected by encouraging them to participate in the next edition.

Thus, the program selected 20 projects for pre-incubation, of which two gave up in the first week of activities. The remaining 18 consisted of 64 participants. Nine projects met all program requirements, which included, for example, accurate and complete accomplishment of the stages and proposed activities, obtaining a minimum frequency of 90%.

Specifically, the structure of the pre-incubation program and activities developed, together with the evaluation analysis of the pre-incubated entrepreneurs, are described below.

4.2 DESCRIPTION AND PERFORMANCE ANALYSIS OF THE PRE-INCUBATORS

Evaluation of the pre-incubators was divided regarding the structure and activities of the pre-incubation program.

4.2.1 Structuring of the Pre-Incubation Program

The items assessed in relation to the Structuring of the Pre-Incubation Program consist of the Disclosure of the Pre-Incubation Process, Selective Process, Activity Schedule, Activity Load, and Means of Communication used by the AGITTEC team. The evaluation of the respondents is represented on a scale of 1 to 5 (not at all important to extremely important) (Table 1).

Table 1 – Pre-incubator evaluation of the structure

Structure	Intensity (%)					Total
	1	2	3	4	5	
Disclosure of the Pre-Incubation Process	-	-	13.6	50	36.4	100
Selective Process	-	-	-	54.5	45.5	100
Activities Schedule	-	-	36.4	40.9	22.7	100
Activity Load	-	-	13.6	63.6	22.7	100
AGITTEC Forms of Communication	-	-	-	36.4	63.6	100

Dissemination of the Pre-Incubation Process took place through online tools (Facebook, e-mail, and website), posters distributed around UFSM and other institutions, such as the Chamber of Commerce, Industry, and Services of Santa Maria (*CACISM, Câmara de Comércio, Indústria e Serviços de Santa Maria*), Association of Young Entrepreneurs of Santa Maria (*AJESM, Associação de Jovens Empreendedores de Santa Maria*) and Junior Business Center of Santa Maria (*NEJESM, Núcleo das Empresas Juniores de Santa Maria*). In addition to reports broadcasted on the university TV channel and local media. The respondents evaluated these means of communication positively.

The selection process consisted of completing an online application form and presentation of the project available on video (up to 3 minutes long) based on the elevator pitch technique and uploaded to a cloud.

With this, the Evaluation Committee used as evaluation criteria: degree of innovation of

the proposed enterprise; stage of development of the new product, service or process; market potential; environmental and socioeconomic impact of the project; technical, economic, and/or operational feasibility; and curriculum of the proponents. According to the data, the respondents considered the selection process “Very Good.”

Pre-incubation activities occurred in the afternoon and evening, one to two times a week, for four months. The schedule of the activities and defined workload for the program are considered satisfactory. Email, telephone, and Facebook were used as means of communication. The latter because it englobes a younger audience that is directly connected in social networks. Most respondents considered this criterion “Great.”

4.2.2 Developed Activities

Throughout the process, pre-incubators had individualized mentoring, consulting, classes, and lectures given by entrepreneurs, university professors, and SEBRAE, which assisted in implementing business plans. Support from SEBRAE was done by signing an agreement with the university to support pre-incubation and incubation of technological enterprises.

The questions related to the activities have importance as a measuring standard in relation to each evaluated item, in which 1 represents the lowest degree of importance and 5 the highest.

The pre-incubation program had content that presented an introduction on the topics covered in a business plan with the purpose of offering the pre-incubators a brief conceptual understanding aiming to confront the idea with the market reality, presenting itself as a learning process in practice as stated by Oliveira (2004). This is because developing business plans for planning and defining business in the period prior to opening ventures is considered essential.

Pre-incubation included the following modules: Company Structure (mission, vision, values, social capital, sources of resources and experience of the entrepreneurs); Market Analysis (customers, competitors, and suppliers); Construction of Scenarios (evaluation of company strategies and Swot matrix), Marketing Plan (prices, marketing strategies, promotional strategies, product, and market); Operational Plan (layout, productive and commercial capacity, product development, service and process, and need of human resources); and Financial Plan (investment, cost, and billing estimates, working capital, internal rate of return, and viability indicators).

Data related to the evaluation of the pre-incubation program modules by pre-incubators is shown in Table 2.

Table 2 - Pre-incubator evaluation of the modules

Modules	Intensity (%)					Total
	1	2	3	4	5	
Company Structure	-	-	13.6	50	36.4	100
Market Analysis	4.5	-	4.5	40.9	50	100
Scenario building	-	9.1	18.2	50	22.7	100
Marketing Plan	-	-	9.1	68.2	22.7	100
Operational Plan	-	-	9.1	59.1	31.08	100
Financial Plan	-	-	9.1	36.4	54.5	100

The modules are considered of high importance regarding contribution to enterprise

development. The highest intensities range from “Very Important” to “Extremely Important.” Only the modules on Market Analysis and Scenario Construction obtained negative evaluations despite being low intensities, which were 4.5% and 9.1%, respectively. These evaluations may be due to the different approaches used by the lecturing professors, some of which presented theoretical aspects and others practical methods.

In addition to the modules, the pre-incubation program contributed with Complementary Activities, Mentoring Process, Consultancies with SEBRAE, Technical Visits to spaces considered innovative, and full support of the AGITTEC Team. In this way, the intensity of respondents according to the importance of each practice is presented in Table 2.

Table 2 - Pre-incubator evaluation of activities

Activities	Intensity (%)					Total
	1	2	3	4	5	
Complementary Activities	-	-		68.2	31.8	100
Mentoring Process	-	-	13.6	31.8	54.5	100
SEBRAE Consulting	-	-	27.3	50	22.7	100
Technical Visits	-	-	22.7	36.4	36.4	100
Partial Feedback	4.5	-	9.1	40.9	45.5	100
Final Feedback	-	-	9.1	31.8	59.1	100
AGITTEC Team	-	-	4.5	40.9	54.5	100

Complementary Activities addressed issues related to entrepreneurial connection strategies in times of crisis; people management; sales strategy, pricing policies, advertising, sales and after-sales; interaction between small and large companies; and Canvas and Thinking Design models. These practices were evaluated as very important and extremely important in the development process of enterprises.

The Mentoring Process consisted of the relationship between the mentor and pre-incubators. Levinson et al. (1978) states that a mentor is “usually a much older person, someone of greater experience and maturity, being a professor, counselor, or godfather.” In turn, the mentee benefits from the experience, maturity, and protection of the mentor.

During pre-incubation, the mentors were university professors, most with previous experience in the private sector, and entrepreneurs in the region. These agents had the objective of assisting pre-incubators in the business reality by offering suggestions on market trends, making the candidates reflect on the viability of their business, as well as providing the Entrepreneurship Coordination feedback about their vision on entrepreneurs and participants. Therefore, the mentor was assigned according to their experience of the pre-incubated business model or also the requested area considered deficient by the project team.

The most requested mentoring was Marketing, Sales, Management, and Design. This corroborates Robert that highlights a series of problems in strategic planning related to marketing plans, management team, technology plans, and financial plans (BESSANT; TIDD, 2009). In this manner, the data reveals that the role of the mentor has become extremely important in developing business plans.

In partnership with SEBRAE, which is a body that aims to stimulate entrepreneurship, and promote competitiveness and the self-sustainable development of small businesses (SEBRAE, 2016), the pre-incubation program offered consultancies to each project with the purpose of assisting business plan development. Data show that most respondents believe that consulting

with the entity is very important for developing business plans, however, there is a considerable percentage of “Indifferent” responses. This may be explained by many ventures that did not visit SEBRAE since this was optional in the program.

During the pre-incubation process, a technical visit was made to the industrial plant and creation sector of *Móveis Florence*, as it was recognized for the innovation in its processes. The Technological Incubator of the University of Caxias do Sul was also visited in order to acquire more knowledge about developed practices and form business relationships (networking) with the incubated entrepreneurs. According to the data, these experiments are evaluated with a high degree of importance by the pre-incubators.

In the pre-incubation process, an evaluation board composed of representatives of the Entrepreneurship Coordination, entrepreneur mentors in the process, SEBRAE, and professors gave the entrepreneurs two types of feedback on the progress of their business. Partial Feedback refers to the presentation of the Canvas and Thinking Design models of each venture. After obtaining more knowledge and suggestions acquired in the activities of the program, the entrepreneurs defined the final Canvas Model in which the Final Feedback of the Pre-Incubation Program was obtained.

The criteria evaluated in the presentations of the models refer to the degree of innovation; development stage of the product/service; market potential and scalability; environmental and socioeconomic impact of the project; technical, economic, and/or operational feasibility; adaptation of the business model to reality; and posture of the entrepreneurs during presentations. Based on the data, evaluator feedback for each project is of extreme importance to define business models and, consequently, develop projects.

The AGITTEC Team is composed of professionals responsible for Intellectual Property, Technology Transfer and Entrepreneurship Coordination. Therefore, the agency has know-how to assist the pre-incubated enterprises in their issues and consolidate technology-based ventures. In view of the intensity of the respondents, the assistance of the agency team is extremely important for enterprise development.

4.3 PERFORMANCE ANALYSIS BETWEEN MENTORS AND MENTEES

The response intensity of the pre-incubation program mentors and mentees in relation to the structuring and activities described previously is shown in Table 4. The contribution of the program to the pre-incubators and community in general is also evaluated.

Table 4 - Mentor and mentee evaluation of pre-incubation

Items	Intensity (%)						Total
	1	2	3	4	5	6	
Disclosure of the Pre-Incubation Process	-	-	-	39.1	47.8	13	-
Pre-Incubated Enterprises	-	-	8.7	52.2	34.8	4.3	-
Mentoring Process	-	-	4.3	43.5	34.8	17.4	-
AGITTEC Team	-	-	-	4.3	91.3	4.3	-

AGITTEC Means of Communication	-	-	-	39.1	56.5	4.3	-
Proposed Activities for the Pre-Incubators	-	-	4.3	21.7	52.2	21.7	-
Company Structure	-	-	-	43.5	52.2	4.3	-
Market Analysis	-	-	-	17.4	82.6	-	-
Scenario building	-	-	8.7	47.8	39.1	4.3	-
Marketing Plan	-	4.3	-	34.8	60.9	-	-
Operational Plan	-	-	-	34.8	65.2	-	-
Financial Plan	-	-	-	21.7	78.3	-	-
Program Contribution for the Pre-Incubators	-	-	-	8.7	78.3	13	-
Program Contribution for the Community in General	-	-	8.7	47.8	30.4	13	-
The Program in General	-	-	-	30.4	65.2	4.3	-

In this context, evaluation by the mentors and lecturers participating in the program in relation to the Disclosure of the Pre-incubation process is considered great. Moreover, these respondents considered the pre-incubated enterprises and Mentoring Process good.

From the data, the AGITTEC Team, Means of Communication, and Activities proposed to the pre-incubators are considered great.

In general, most mentors and lecturers consider the modules (Company Structuring, Market Analysis, Market Construction, Marketing Plan, Operational Plan, and Financial Plan) extremely important for project development. Concerning the contribution of the program for the pre-incubators, there is a higher degree of "Great" in responses. Contribution of the program to the community in general is evaluated as "Good." Finally, these respondents considered the program "Great" in general.

In view of the above, it is evident that the mentors and mentees positively perceive the activities developed, pre-incubated enterprises, contribution of the program to the entrepreneurs and community in general, dissemination strategies, and means of communication. In other words, these two agents satisfactorily evaluated the entire pre-incubation process.

5 FINAL REMARKS

The objective of this study was to describe the Pre-incubation Program and analyze its performance among the participants (final participants, mentors, and lecturers). The program showed high performance for respondents, assisted in project development, broadened the agents' networking, and contributed to society and the region.

Analysis of the data showed there were no significant differences between the evaluations of the pre-incubators, mentors, and lecturers. It is important to note that the modules related to business plans are taught by academic professionals and entrepreneurs in order to provide theoretical and, above all, practical learning. As a result, it is relevant to deepen insertion into the Pre-Incubation Program through professionals from outside the institution in order to

have other market views.

Moreover, the results reveal that the themes considered the most deficient in the projects, such as marketing plan, sales, management, market analysis, and scenario building should be more focused on practical activities and future programs in order to improve enterprise performance. In addition, the program should encourage more efficiently the participation of projects in consultancies provided by SEBRAE.

Notably, feedback and mentoring should be encouraged, as they provide guidance, contact with companies already consolidated in the market, exchange of experiences, and help in develop business plans, which are highlighted with extreme importance by the pre-incubators. In addition, analyses show that the AGITTEC team played a fundamental role in the development of the enterprises, obtaining satisfactory evaluation from the respondents.

The significant number of subscriptions in the program demonstrated a repressed demand within the university, which shows the importance of the institution as a stimulating agent of entrepreneurship. Thus, it is concluded that the Pre-Incubation Program is of fundamental importance for the generation and consolidation of technological enterprises in the region. In this way, the pre-incubation development and learning process must be continuously reviewed in a way that promotes innovative entrepreneurship and sustainable development.

This study served to highlight the activities that should be prioritized due to lower income and what administrative measures and methodological strategies can be adopted while aiming at improving future editions, in addition to contributing strategically to stimulate innovative entrepreneurship.

REFERENCES

BESSANT, J.; TIDD, J. **Inovação e Empreendedorismo**. Porto Alegre: Bookman, 2009.

CLAIBORNE, C. B. Innovation: A Necessity of the New Global Business Paradigm. **International Journal of Business Research**, v. 7, n.6, 2007.

DOLABELA, F. **Oficina do empreendedor**. São Paulo: Cultura Editores Associados, 1999.

DRUCKER, F. P. **The Practice of Innovation: Innovation and Entrepreneurship Practice and Principles**. Nova York: Harper & Row, 1985.

GIL, A. C. **Como Elaborar Projetos de Pesquisa**. 5ª ed. São Paulo: Atlas, 2010.

GIL, A. C. **Estudo de Caso**. São Paulo: Atlas, 2009.

GODOY, A. S. **Pesquisa qualitativa**: tipos fundamentais. Revista de Administração de Empresas – RAE. 35(3), 1995.

IATA, C. M.; ZIMMER, P. (Org.). **Inovação em Rede: como inserir sua empresa no ecossistema de inovação**. 1. ed. Florianópolis: Tribo da Ilha, 2016. p.314, 2016.

INSTITUTO DE PESQUISA ECONÔMICA APLICADA - IPEA. **Brasil em Desenvolvimento 2013: estado, planejamento e políticas públicas**. Brasília: Ipea, 2013. Available in: <www.repositorio.ipea.gov.br>. Accessed on: June 20 2016.

INSTITUTO NACIONAL DA PROPRIEDADE INDUSTRIAL–INPI. **Ranking dos Depositantes Residentes de Patentes de Invenção (PI)**, 2015. Available in: <www.inpi.gov.br>. Accessed on: Jun 25 2016.

LAKATOS, E. M.; MARCONI, M. A de. **Metodologia científica**. 3.ed. São Paulo: Atlas, 2000.

LASTRES, M. M. H.; CASSIOLATO, J. E. Innovation Systems and local productive arrangements: new strategies to promote the generation, acquisition and diffusion of knowledge. **Innovation: Management, Policy & Practices**, v. 7, p. 172-187, 2005.

LAZONIC, W. Indigenous Innovation and Economic Development: Lessons from China's Leap into the Information Age. **Industry and Innovation**, v. 11, n. 4, p. 297-297, 2004.

LEVINSON, D. J.; DARROW, C. N.; KLEIN, E. B.; LEVINSON, M. A.; MCKEE, B. **Seasons of a man's live**. New York: Knopf, 1978.

LUCAS, E. A disseminação da Cultura Empreendedora e a mudança na Relação Universidade-Empresa. In: Encontro de Estudos sobre Empreendedorismo e Gestão de Pequenas Empresas, II, 2001, Londrina, PR. **Anais...Londrina**. p. 241-252, 2001.

MACHADO, B. A.; SILVA, L. R. A.; BORBA, L. M. CATAPAN, Hack Araci. Habitats de Inovação: Possibilidades Sustentáveis para a Sociedade. In: Conferência Anprotec de Empreendedorismo e Ambientes De Inovação. 2015, Cuiabá, MT. **Anais...Mato Grosso**, 2015. Available at: < anprotec.org.br/site/>. Accessed on: June 23 2016.

MALHOTRA, N. K. **Pesquisa de marketing**: uma orientação aplicada. 4 ed. Porto Alegre: Bookman, 2006.

OLIVEIRA, A. E. A. **Plano de Negócios: Elaboração, Execução e Controle**. Niterói: Universidade Federal Fluminense, 2004.

ORGANIZAÇÃO PARA COOPERAÇÃO E DESENVOLVIMENTO ECONÔMICO - OCDE. **Manual de Oslo: Diretrizes para coleta e interpretação de dados sobre inovação**. 1997a. 3 ed. Available at: <www.finep.gov.br/>. Accessed on: June 18 2016.

PAROLIN, H. R. S.; VOLPATO, M. **Faces do Empreendedorismo inovador**. Curitiba: SENAI/SESI/IEL, 2008. 364 p.

PREFEITURA DO ESTADO DE SÃO PAULO. Secretaria Municipal do Desenvolvimento, Trabalho e Empreendedorismo. **O que é um ambiente de Pré-Incubação**. Available at:

<www.prefeitura.sp.gov.br>. Accessed on: June 16 2016.

SANTOS, N. A. J.; MASSENA, P. B.; CAMPOS, C.; CARVALHO, L. L. Proposta de Programa de Pré-Incubação e Incubação de Empresas na Unidade Operacional de Rio das Ostras da Rede de Incubadoras da UFF. In: Simpósio de Excelência Em Gestão e Tecnologia, IX, 2012, Rio de Janeiro, RJ. **Anais...**Rio de Janeiro, 2012. Available at: <www.aedb.br/seget>. Accessed on: June 20 2016.

SCHUMPETER, J. A. **Teoria do desenvolvimento econômico**. Tradução de Maria Sílvia Possas. São Paulo Editora Nova Cultural Ltda, 1997.

SECRETARIA DE ESTADO DE CIÊNCIA, TECNOLOGIA E INOVAÇÃO DE MATO GROSSO. **Cadernos de Ciências, Tecnologia e Inovação do Estado de Mato Grosso: Eixo II - Inovação nas ICTS e nas Empresas**. Cuiabá, MT: Secretaria de Estado de Ciência, Tecnologia e Inovação, 2015. Available at: <www.secitec.mt.gov.br >. Accessed on: June 10 2016.

SERVIÇO BRASILEIRO DE APOIO ÀS MICRO E PESQUENAS EMPRESAS –SEBRAE. **Histórico e perfil do SEBRAE/RS**. Available at: <www.sebrae-rs.com.br>. Accessed on: Jun 27 2016.

SOUZA, M. M. C. A. Gestão de Núcleos de Inovação Tecnológica. In: Congresso Internacional Iglu, II, 2011, Florianópolis, SC. **Anais...**Florianópolis, 2011. Available at: <<https://repositorio.ufsc.br/>>

>. Accessed on: June 3 2016.

UNIVERSIDADE FEDERAL DE SANTA MARIA – UFSM. **Plano de Desenvolvimento Institucional (PDI) 2011-2015**. Available at: < www.site.ufsm.br>. Accessed on: Jun 27 2016.

VAILATI, P. V.; TRZECIAK, D. S.; CORAL, E. **Estruturação e gestão de núcleos de inovação tecnológica: Modelo PRONIT**, p. 338, Blumenau: Nova Letra, 2012.