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SPIN-OFF PROGRAM: Creation of Technology-Based Companies from Search Results

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ABSTRACT

The creation of a company, undertaken by researchers, based on knowledge generated in this project, it is a way of contribution to economic and social development. These companies are known as academic spin-offs facing many problems during its establishment, especially the difficulties that the researcher does not have the skills of an entrepreneur. In order to stimulate the creation of these companies, the Federal University of Viçosa, through the Incubator of Technology-Based Companies, under the Technology Center of Regional Development of Viçosa, developed and implemented the Spin-off UFV Program. The Program aims to articulate encouraging actions, promote and support the generation and development of academic spin-offs. The aim of this article is to describe the methodology of this Program and the achievements with its implementation, such as the promotion and consolidation of entrepreneurial vision with the academic community.

Keywords: *technological innovation, entrepreneurship, academic spin-offs, technology transfer*

1. INTRODUCTION

The generation of technology-based companies, conceived from academic research results, is an increasingly common phenomenon around the world, which has been increasing among Brazilian universities. The creation of a company, undertaken by researchers, based on knowledge developed in this research environment, is a form of effective contribution of universities and research institutes to society. Such enterprises transform scientific and technological knowledge into economic value to the market and social development for the society, allowing the generation of highly qualified jobs, the development of new products and the development of innovative business models. The support for consolidation of these enterprises has proved one of the most promising ways to promote economic and social development of a region.

The technology-based companies, generated from technology transfer process from universities, are called academic spin-offs (Ndonzuau, Pirnay & Surlemont, 2002). This type of venture is part of the technological entrepreneurship, and involves the creation of new companies made up of entrepreneurs holders of previous experiences in Research and Development (R & D) performed within academic environments (Drummond, 2005). Successful models of sites dedicated to technological innovation shows that some of the most competitive nations in the current global economic scenario have been learning in recent decades to successfully exploit this type of initiative (Takahashi & Takahashi, 2007). The presence of universities, research centers, venture capital institutions, highly qualified professionals and a dynamic industrial park becomes an important requirement and an enabler of the process of generation of technologies, innovative products and business. Allied to this, it is also essential the formation of a dynamic and focused entrepreneurship social environment, which, adapted for different characteristics and regional vocations, could generate intense local economic growth and development (Drummond, 2005).

The generation of academic spin-offs is due in particular to the diffusion and incorporation within the universities, of an entrepreneurial mindset, which promotes closer ties between academia and the business sector. This is the phenomenon called "capitalization of knowledge", through which arises the concept of entrepreneurial universities, who take an active role in promoting economic and social development by encouraging and promoting applied research (Etzkowitz, 2009).

The academic environments, particularly universities, are recognized by the intensive generation of scientific and technological knowledge and training of highly qualified professionals. In this environment, the researchers interact with the sources of knowledge and advanced technologies from research conducted within their institution. Some of these researchers identify, in the results of their research, opportunities for economic generate value and technology transfer, which can be exploited by opening a business (academic spin-off) or licensing of technology.

Academic spin-offs, which are technology-based start-ups (ENBTs), face a risky process of evolution between the conception of business and marketing consolidation (Ndonzuau et al., 2002). The difficulty increases during the development steps of the product or service and require a series of measures to address the shortcomings related to business management and the limitations of the entrepreneur team (Freitas, 2007; Drummond, 2005).

In order to promote and intensify the creation of academic spin-offs, some universities are developing initiatives in order to create and structure internal institutional bodies to support entrepreneurship and innovation. The main initiatives are: technology transfer offices, created to assist in the protection of knowledge generated; incubators of technology-based companies, developed to provide management support and physical infrastructure support in the early years of ENBTs; and technology parks, structured to promote regional and local development by attracting and fixing technology-based enterprises (Drummond, 2005).

In this scenario, the business incubators play an important role in combating mortality of new businesses and encouraging entrepreneurship in the country (Mantovani et al., 2007). Incubators of technology-based companies (IEBTs) have as their main objective support business development that add technological innovation, transforming research and development in innovative projects (Santos, Dutra & Almeida, 2008).

The main objective of the incubator, with regard to start-ups, is to provide input through service infrastructure and scientific mechanisms to support innovation, technological cooperation and business strategies. The aid must not be limited to policies and incentive programs, but should also include the development of an appropriate technical and managerial support to the peculiarities inherent to this specific type of entrepreneurship (Cheng & Melo Filho, 2007).

In general, the researchers / entrepreneurs have extensive expertise in the development of technology, however, does not have the necessary experience and management skills to overcome the barriers imposed by the market. Thus the development of incentive programs and support for technology-based enterprises is necessary, so that they can overcome the initial difficulties until maturity phase.

Given these aspects, the Federal University of Viçosa (UFV), through the Incubator of Technology-Based Companies (IEBT), under the Technology Center of Regional Development of Viçosa (CenTev), developed and implemented the UFV Spin-off Program. The Program is a joint effort of IEBT, the Dean of Research and Graduate Studies (PPG) and the Permanent Committee on Intellectual Property (CPPI) and its objective is to joint actions to encourage, promote and support the generation of academic spin-offs. The CenTev is an organ of the UFV, connected directly to the Rectory bringing together IEBT, the Technology Park of Viçosa (tecnoPARQ), the Central Junior Enterprises (CEMP) and the Social and Educational Development Center (Nudese). The CPPI is the Center for Technological Innovation at UFV (NIT).

This article describes the methodology used in the spin-off UFV Program and presents the results reached with its implementation, such as increasing the number of projects and businesses linked to the IEBT CenTev; the promotion and consolidation of entrepreneurial vision in the academic community; the effectiveness of the partnership between CenTev; CPPI and PPG corroborating for the construction of a favorable environment for innovation; and the establishment of tools that help researchers in the development of new research.

2. LITERATURE REVIEW

In the most economically advanced countries, the incorporation of technology in process shows itself aided by the great interaction between universities, research laboratories and production sector. In these countries it is noticeable that the vast majority of qualified professionals to innovation activities (scientists and postgraduate

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SPECIAL ISSUE – V|4|N|7| February | 2015

engineers) are within companies, as shown in Figure 1. In Brazil it is observed just the reverse. The professionals for innovation activities are in universities and research institutes and there is little or no interaction of these with the productive sector.

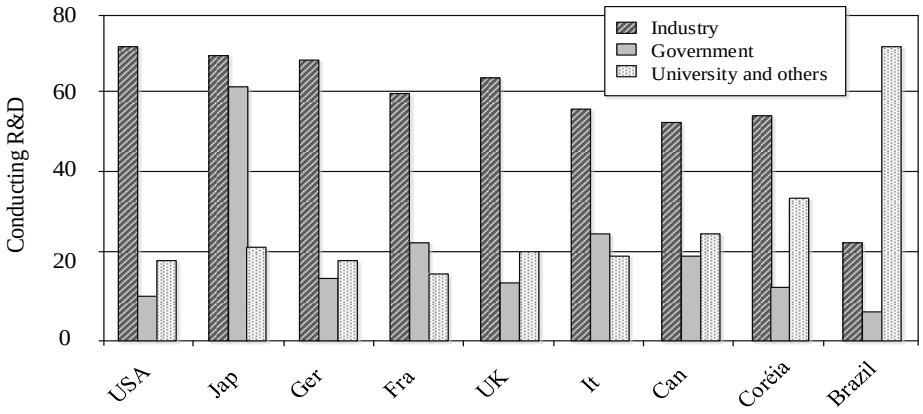

Figure 1 - Distribution of scientists and engineers active in R & D in several countries and in Brazil.
Source: (Cruz, 1999)

Scientific discoveries generate a potential for creation, development and expansion for companies, through technological innovation. The creation of economic value from the technologies arising from research is becoming a major concern of the Brazilian government, which through fostering agencies unfold this demand for universities and public research institutes. In this context, ways of interaction and cooperation between universities and companies must be understood and encouraged. The encouragement of technological and academic entrepreneurship is the focal point of university-industry cooperation and discussions to encourage innovation (Drummond, 2005).

For Cozzi et al. (2008), the creation of enterprises by researchers and teachers, based on knowledge developed in public research environment, is a way of expression and contribution of academia. For the authors, academic spin-offs offer several advantages: generating economic value for universities, as copyright, royalties and even donations; conservation and enhancement of the national scientific heritage; diversification of the economy; generation of jobs and taxes; promotion of the industrial fabric; and promotion of an entrepreneurial culture within universities, bringing academia business sector.

For Ndonzuau et al. (2002), the initial planning of a technology-based company should cover, in addition to the business plan, also the technology planning. For the author, the process of creating an academic spin-off can be divided into four main steps, as shown in Figure 2: i) generating ideas from search results; ii) new business project termination (technology planning and business plan); iii) release of the spin-off; and iv) the new company economic empowerment.

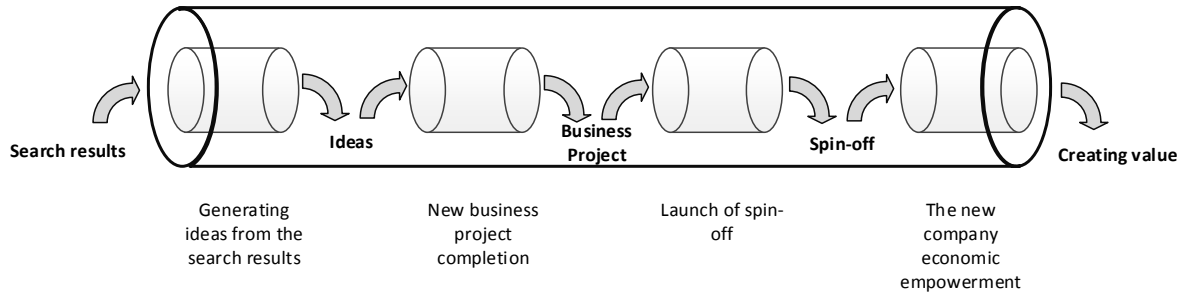

Figure 1 - Stages of the process to create a spin-off academic.
Source: Adapted from Ndonzuau *et al*., 2002.

Cheng, Drummond & Mattos (2005) concluded that the technical aspects necessary for a technology to be incorporated into products, processes or value-added services are not properly addressed in traditional business plans. In this sense, Drummond (2005) proposes the business plan extended, which incorporates technology issues and products to the traditional model of business plan. The configuration of the extended business plan is tied to the structuring of a technology plan. The technology planning is a tool that seeks to define the technological evolution of the product, from prototype to industrial scale as well as the priority products (and their derivatives) within the same product family (Cheng *et al.*, 2005).

The purpose of this planning is to detail the different possibilities of industrial exploitation of the technology. For the authors, the technology plan is the result of this process, which is a document that explains the path of technologies to market. Technological planning should include the development of products through the alignment of the trinomial technology, product and market (TPM), in order to maximize the opportunities identified. The expected result is to enable the start-up company develop prototypes to demonstrate that the technology works properly to be extended to industrial scale production and commercialized (Ndonzuau *et al.*, 2002).

Given the importance of structuring a process of technology planning for academic spin-offs, we elaborated the proposition that the area of Product Development Management (GDP) could offer the theoretical resources and necessary practical. The GDP can assist in adapting the tools used by large companies to the reality of academic spin-offs, through the guidance of the path of their technologies to the market throughout the product development process (Cheng, 2000).

In the current business environment, highly competitive and globalized, the success of companies and organizations depends on the continued evolution of the enterprise, as well as their competence in achieving market products and services that meet and maintain customers, respecting the environment and criteria quality. This dispute, increasingly fierce, and reducing the life cycle of the products have required strategic flexibility and dynamic learning organizations that aims to suit the market dynamics.

Factors relating to the business success, as the increase of revenues, profitability and market share, have been referred to as a result of good management of product development. Fastest growing companies are those that innovate continuously, through the constant introduction of new products on the market (Cheng & Melo Filho, 2007).

The new product ideas emerge all the time, especially in innovative, distinctive environments of technology-based companies. Such ideas at the same time they are opportunities to generate new products, are also challenges to evaluate the feasibility of the firm. In this impasse, often fresh ideas fail to meet a likely market need for lack of a more detailed analysis and adequate to the reality of each company (Oliveira & Faria, 2009).

In this context, GDP is a wide area of knowledge capable of providing the methods and techniques needed to manage the development process of new products and the organization of work in companies. The literature offers a number of methods and techniques, the GDP of the area that can assist in structuring a technological planning process focused on the development of market needs in an academic spin-off (Leonel, 2007). The product development process (PDP) in this case is located at the interface between the company and the market, enabling the identification of the needs and proposing new solutions that meet those needs (Rozenfeld *et al.*, 2006).

The product development management can be represented in two dimensions. On the vertical axis is represented the "planning horizon", with at one end the "strategic" and in the other the "operational". The horizontal axis comprises the "product development cycle," since the "generation of ideas" to "product launch" involving the various functional areas of business. Throughout the development cycle, some methods and techniques are presented to assist companies in structuring the process and the organization of work, both at the strategic level (program or project group) and operational (specific project), as shown in Figure 3 (Cheng, 2000).

	Program (strategic)	Project (operational)
Process	Technology Roadmapping (TRM) Portfolio management Platform continuous renewal Aggregate plan projects Techniques and methods	Stage-gates Development steps Concept Quality Function Deployment (QFD) Prototyping Statistical techniques
Work organization	Networking Participation of suppliers and customers	Multifunctional Organization of the development group

Figure 2 - The structure of the product development management
Source: Adapted from Cheng (2000) and Drummond (2005).

The GDP brings together the theoretical framework needed to help companies position themselves strategically to its competitors and create more competitive products in terms of innovation, quality and cost. For most of the academic spin-offs, the business development process ends up confusing with its own development process of new products. This is because these companies start their activities by exploiting a technology that is still in development phase or consolidation. Thus, the same factors that influence the success of the PDP also interfere with the success of the project, and are critical to the start-up (Leonel, 2007).

For the management of product development of academic spin-offs one can use the methodologies used by large companies, which should, however, make any necessary adjustments to the new context. Drummond (2005) points out the most appropriate methods to assist in fulfilling the theoretical gaps present in the planning of academic spin-offs, such as the Technology Roadmapping (TRM), which can be understood as the construction and graphic representation of the route of evolution of technologies, products and markets, assisting in the organizational planning process and aligning the development of actions with business goals (Freitas, 2007).

The TRM, with its ability to align technology, product and market, with focus on the strategic goals of the business, is a flexible method to assist the strategic planning of start-ups, encouraging discussions about the technological and market potential actors in the business. The method also helps stimulating a participative and conducive to continuous learning environment during samplings of information and decision-making (Rodrigues, Suzuki & Faria, 2010).

Another suggested method is the Quality Function Deployment (QFD). According to Cheng & Melo Filho (2007), QFD can be conceptualized as a way to systematically communicate information related to the quality and neatly explain work related to achieving quality, aims to achieve quality assurance approach during development product. It is a tool to identify and align customer needs with product development.

QFD is a method capable of assisting in product development, identifying the real needs of customers and converting them into quality characteristics for the product, supporting the PDP. For academic spin-offs, it is essential to align technology to products required by customers, but so that the quality is guaranteed. In this context, QFD can be used in parallel to the development of the product, accompanying the product planning phase, design, production and launching and monitor the product in the market (Rodrigues *et al.*, 2010).

In addition to these methods, it has also the Feasibility Study Economic Technical and Commercial (EVTEC) that is widely used in order to support those who intend to undertake or sell their technology. The technical and commercial feasibility are constituted by aspects of success, each aspect has a range of factors that are assessed using scoring systems and weights. The aspects that affect the project success are technical: technology development stage, technical skills, product platform, scale up production, complexity and other. The commercial success are: demand, competitors, technology markets, technology advantages, customers need, customer characteristics, substitute products, complementary products, customers' bargaining power, bargaining power of suppliers, environmental impact, social impact and others. The financial viability or economic and financial analysis consists of the following steps: pricing, sales plan, costs and expenses and calculating metrics.

For researchers who want to transfer the technology, it is necessary to make the valuation of its technology. The purpose of the valuation of technology is not to predict the exact value of the technology at the time of marketing, but to provide, before all the uncertainties that characterize the process of technological innovation, an expected value that somehow captures the risks and uncertainties inherent in this process. In this sense, value a technology means assigning a fair price for a given technology. This price must satisfy the seller of technology (licensor) and the purchaser of the technology (licensed) for the transaction to succeed. The sale value besides depending on the technology itself, may depend on the bargaining power of the buyer or seller, the risk associated with technology and the technical and commercial feasibility of the same.

Importantly, the number of publications in this area contributions call for the methods and techniques in large corporations. However, it is believed that the adaptation of these features to adapt to the reality of a start-up company can also provide good results. Given these aspects, the introduction of GDP practices in the initial planning of academic spin-offs is a consistent way to address the initial challenges to the consolidation of this type of venture.

3. THE SPIN-OFF PROGRAM

Understanding the importance of their role in the innovation process, the Federal University of Viçosa (UFV), from the 90's, began a stimulus policy entrepreneurship and technological innovation with the creation of the

Incubator of Technology-Based Companies (IEBT), 1996 later, in 2001, the CenTev and recently, in 2011, the Technology Park of Viçosa (tecnoPARQ).

The IEBT is one of CenTev´s units that has the objective of fostering support and guidance for the development of technology-based start-ups, for the development of the region. In addition to providing physical space, management support and specialized consultants, the IEBT also offers specific guidelines for the design, implementation and consolidation of technology-based enterprise. They are also made available to entrepreneurs linked to the Incubator, equipment for development projects, administrative and managerial guidance, specialized technical consultancy, courses, library, meeting rooms and training, phone and shared reception.

The importance of incubators for technology-based start-ups not only lies in the educational and scientific infrastructure supply, technological cooperation and support innovation. These funding agencies should fill the gaps in planning and management of the various areas of business, through an approach of appropriate technical and managerial support for this particular type of enterprise.

The range of services offered by the Incubator CenTev includes the compilation of technical feasibility studies, economic, commercial and environmental and social impacts, management procedures, the management of the product development process, quality management - as specifications NBR ISO 9001: 2008, production management, logistics, environmental management - as the NBR ISO 14001 specifications: 2004, strategic planning, financial accounting management, people management and project management.

In order to stimulate the creation of academic spin-offs, which may participate in the pre-incubation and incubation programs, the Incubator of Technology-Based Companies (IEBT) of CenTev / UFV, in partnership with the Dean of Research and Graduate (PPG / UFV) and Permanent Commission for Intellectual Property (CPPI / UFV) created the Spin-off UFV Program, launched in August 2010.

The Program was structured in order to stimulate and accelerate the process of creating spin-offs of academic success, from the scientific and technological research work of the University. This is a program that gathers practices, tools and methodologies to support emerging entrepreneurship, capable of providing data to innovation processes, business structuring and expansion of technological competitiveness.

The spin-off UFV Program was structured to assist researchers interested in generating economic value from the results of their research conducted at UFV. The implemented methodology in the program aims to provide management support to overcome the main obstacles faced by emerging technology-based companies. In this sense, the methodology includes the development of Technical Feasibility Study, Economic, Trade and Environmental Impact (EVTECIA), aid in the management of the Product Development Process (GDP), Extended Business Plan and development of technological valuation study.

The results expected from the implementation of the Spin-off UFV Program are: (i) increase the number of projects and businesses linked to IEBT; (ii) contribute to the technological and economic development of the region through the creation of new companies with strong technological base; (iii) promote and consolidate entrepreneurial vision with the community of UFV; (iv) provide tools to assist researchers in developing new researches directed to the demands of society; (v) increase the number of intellectual property UFV records, as well as licensing and technology transfer; (vi) assisting in the development of the Technology Park of Viçosa.

3.1. Methodology of the Spin-off UFV Program

The methodology of the Spin-off UFV Program is the result of work carried out by IEBT (CenTev / UFV) to support the creation and development of new technology-based businesses, which can be verified in: Faria & Suzuki (2009); Faria et al. (2009); Silva, Faria & Suzuki (2010); Freitas, Suzuki & Faria (2010); Gomes, Juste & Faria (2010); Rodrigues, Faria & Suzuki (2010)[a]; Rodrigues, Faria & Suzuki (2010)[b]; Procaci, Suzuki & Faria (2010); Marques, Suzuki & Faria (2010); Marques *et al.* (2010); Chiriboga, Suzuki & Faria (2011); Gomes *et al.* (2011); Marques, Nigro & Faria (2011); Marques, Faria & Suzuki (2011); Faria *et al.* (2011); Rodrigues, Nigro & Faria (2011); Ortega, Suzuki & Faria (2011); Santos & Faria (2010); Staino *et al.* (2011).

Through the work carried out along the ENBT linked to IEBT was possible to reach the conclusions listed below, which were used to develop the model of Spin-off UFV Program:

I. There is a difficulty of academic spin-offs to bring the technology coming of research results to the market in the shape of innovative products or processes that are fully accepted by the market. It is assumed that this difficulty is natural in case of academic spin-offs, given that the vast majority of university researchers start their research projects without a market approach. So when the result of

ISSN: 2047 - 0398
SPECIAL ISSUE – V|4|N|7| February | 2015

research is an innovative technology, the incorporation of this in an innovative product or process becomes difficult because has not heard "the voice of the customer" in the early stages of research.

II. This context is different from product development in innovative companies, already consolidated in the market, where the product portfolio is defined from the organization's strategic planning, developed with input from a wide market study. Typically, the strategic planning unfolds in the strategic planning products, which considers customer expectations, the qualities required by customers, market opportunities, competitors and the possibility of creating new demands.

III. The planning ENBT using only the traditional business plan templates is inappropriate. To elaborate the business plan and its economic and financial indicators such as internal rate of return, payback, net present value, investment value, cash flows and others, it is necessary to estimate the demand for the product, make sales forecasts, calculate the cost of the product and the manufacturing process and set the price of the product, which is complicated in the case of academic spin-offs, because the product is innovative, and the market for it is a big unknown. Moreover, in most cases, these companies come to the business incubator with a single product.

IV. The application of product development management tools (GDP) contributes to the improvement of performance of academic spin-offs.

Structured in a process model, the development of the program consists of five main steps: raising awareness / project prospecting; selection; drafting of technical feasibility study, economic, commercial and environmental and social impact (EVTECIAS), application of product development management tools resulting in the Technological Plan and preparation of Extended Business Plan for researchers wishing to set up or technological valuation for researchers seeking the licensing of technology. The sequence of steps is diagrammed in Figure 4.

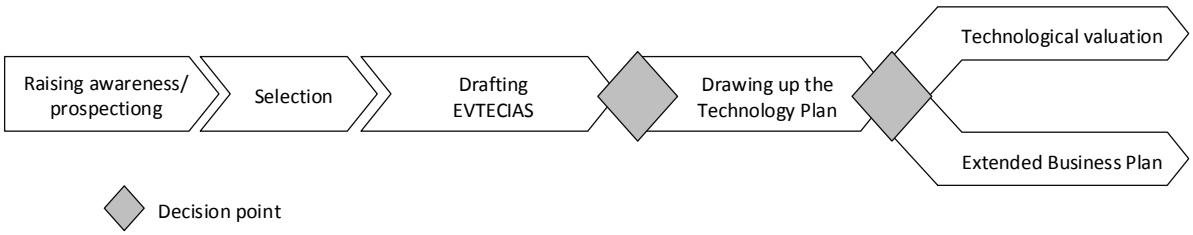

Figure 3 - Steps of the Spin-off UFV Program.

To perform the first stage of raising awareness / project prospecting, lectures are held in the graduate programs of UFV, in order to awaken the entrepreneurial culture among teachers and graduate students, making them aware of the importance of the results of their research to generate economic value and social well-being for society. The sensitization also occurs through the execution of prospecting new business events, courses and training in which they are addressed the importance of protection of intellectual property and the possibilities offered by CenTev through the IEBT and tecnoPARQ for generating and consolidation of technology-based enterprises.

The projects enrolled in the program are selected according to predetermined criteria, which assess technological potential, stage of development, potential market for technology and degree of innovation, being the first decision point (Q1). After the selection of projects, the Executive Summary is prepared containing the main guidelines and future business premises. Figure 5 shows schematically the steps 1 (awareness / prospecting) and 2 (selection) program, indicating the results of academic research are translated into innovative business ideas. After elapse through the steps of scientific and applied research, technologies generate ideas for projects which are then structured in the shape of executive summary.

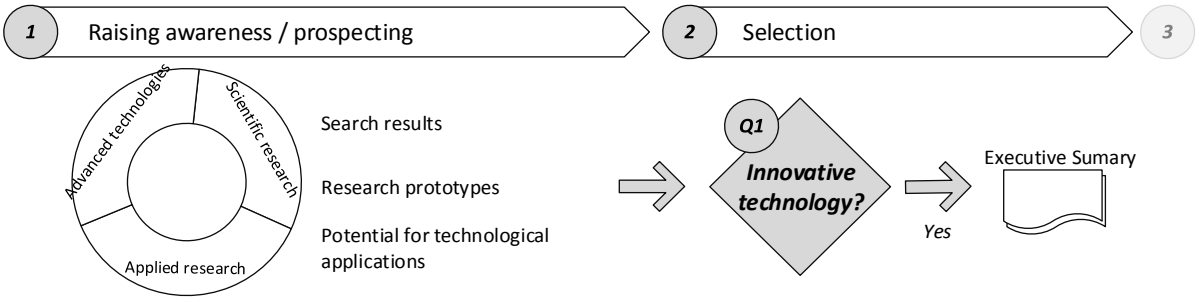

Figure 4 - Steps 1 and 2 of the Spin-off UFV Program.

ISSN: 2047 - 0398
SPECIAL ISSUE – V|4|N|7| February | 2015

After the evaluation of the executive summary and concerning validation of innovation of the proposal it is initiated the drafting of EVTECIAS, as shown in Figure 6. This study aims to validate the business and the technological, commercial and economic aspects and will be the primary structure business model and the basis for the product development process / service.

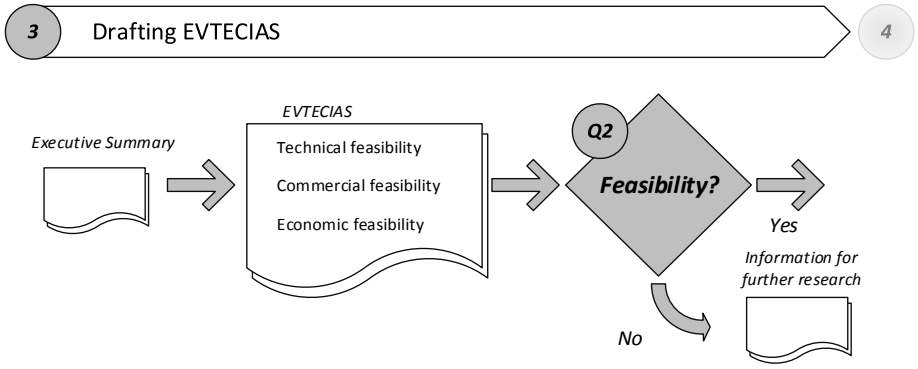

Figure 5 – Step 3 of the Spin-off UFV Program

The great contribution of the development of EVTECIAS regards the critical and strategic positioning of entrepreneurs about the potential deal. This positioning is essential so that faults are identified and, first of all, recognized and valued by researchers / entrepreneurs. As an example, we can mention the protection of intellectual property issues related to technology development and what procedures the team of researchers / entrepreneurs can take before the glimpsed needs.

After the development of EVTECIAS it is carried out the viability assessment of the project, responding to the second design decision point (Q2). If so, that is, the design features viability goes on to the next step. Otherwise, the information is documented and will feed new research developed by researchers.

The projects that presented feasibility proceed to step 4, where you prepared the Technological Plan, as shown in Figure 7. In this step are used methods and techniques of the GDP of areas including Product Development Process (PDP), the Management Platform, Quality Function Deployment (QFD) and the Technology Roadmapping (TRM). The PDP, supported by information gathered in EVTECIAS, supported the QFD method, aligning product development with market needs.

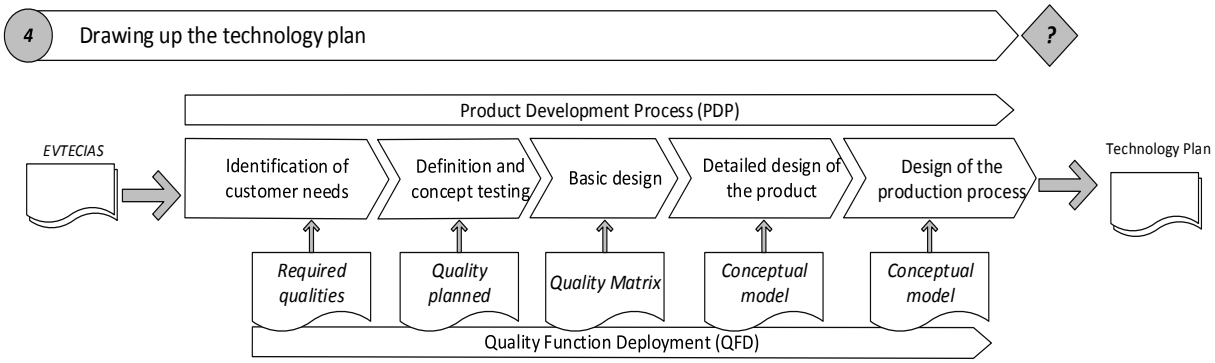

Figure 6 - Step 4 of the Spin-off UFV Program.

As a result of the application of these tools there is the Technological Plan, which establishes the technological evolution of products, processes or services, from concept level and prototype to industrial scale production. At this point, after the development of the feasibility study and technological planning, it is expected that the alignment between technology, product and market is consistent to the next step, which involves the decision to undertake or license the technology. In this phase, the TRM methodologies are applied; QFD and PDP, adapted to the context of academic spin-offs.

With all defined information and assumptions, the researcher and his team can make the decision to undertake or license the technology. In many cases the team already has a position regarding this issue due to the acquisition of maturity and entrepreneurial vision during earlier stages of the program.

ISSN: 2047 - 0398
SPECIAL ISSUE – V|4|N|7| February | 2015

As shown in Figure 8, the researcher who choose to undertake will be drafted an Extended Business Plan, which includes the information of a traditional business plan, merged with the technology planning, constituting a kind of technology route script to market . As for the researcher who choose to transfer technology, a study of technological valuation shall be prepared, through which will be estimated the value of technology for future negotiations.

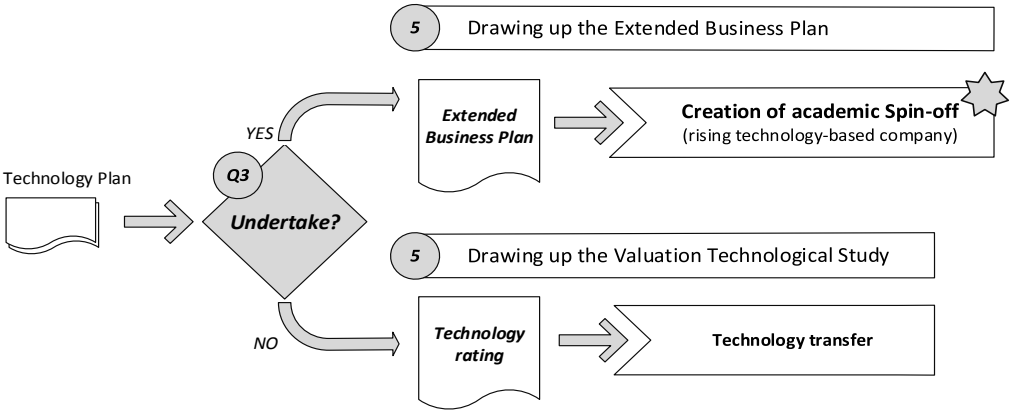

Figure 7 - Step 5 of the Spin-off UFV Program.

The participation of the researcher in the Spin-off program ends with the assessment of the technology and a possible transfer of technology or the creation of spin-off. For the second case, the researcher is still finding direction for the opening of the company, if it has not already done. Furthermore, in both cases, the researcher has all the means to join the pre-incubation programs or incubation, developed in IEBT, and to continue their activities. The ENBT also has the structure of tecnoPARQ, capable of housing the company after its initial stage of development.

The IEBT through management support, provides continuation of the steps for product development, guiding the company to launch the product in the market. Participating in the incubation program, the start-up has a number of support measures, including the application of various methods and management and strategic support tools, making the technology planning company a systematic and continuous process within the organization. Such support services also extend to support activities offered by the Technology Park.

In this sense, the model proposed by the Spin-off UFV Program glimpses the creation of technology-based companies, the inclusion of these spin-offs in incubation programs IEBT and the occupation of tecnoPARQ by graduated companies, as shown in Figure 9.

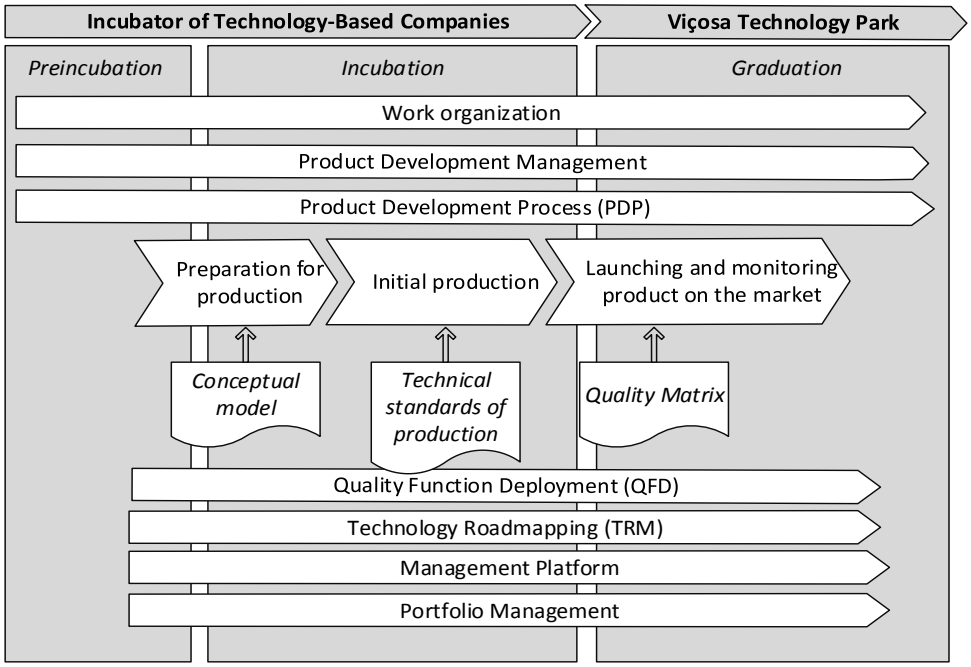

Figure 8 - Later steps to the Spin-off Program.

As a result of the 1st edition, in 2010, five product projects / process of teachers and graduate students were prospected, three of which have chosen to undertake and the other two to license the technology. One of the projects is included in the pre-incubation program IEBT (CenTev), and the researcher from another project is in formalizing of a partnership with a company that intends to finance the development of technology.

4. CONCLUSION

The methodology of the spin-off UFV program was developed with the purpose of establishing promoter instruments of technological innovation, through the promotion and consolidation of entrepreneurial vision in the academic community and the technical and managerial support in the development of management of products / services.

The successful experiences lived by IEBT and the understanding of the issues related to the initial stages of development of academic spin-offs allowed the adequacy of the program methodology to the reality of researchers. In this sense, the development of instructional and participatory methodology, in which the researcher is recognized as a technology entrepreneur and owner of the business, enabled them to develop a critical attitude and a strategic vision of the technological routes of the product.

In this context, the EVTECIA drafting step can be understood as the moment when the researcher, holder of technology, starts to develop and to mature their entrepreneurial skills, especially those related to market positioning of future products. This is due to the deepening market aspects, formerly neglected or poorly explored in research activities. This maturation is of great significance for the future generation of spin-off, as it allows the researcher to discern and interpret, from an economic point of view, the several opportunities of application of technology.

The flexibility offered by the program allows researchers to enjoy greater freedom of action, since there is no necessary link with the IEBT, as in pre-incubation and incubation programs. Thus, if it is verified any infeasibility during the early steps of the program, from the point of technical or economically, or even in the case of a change of attitude of the researcher, it has the option to stop participating in the program without any impediments to such.

The program structure was adequate to its main goals, allowing the acceleration of the business model of the structuring process based on strategically defined criteria, awareness of academic about the possibilities of generating economic value from their research, the orientation in the product development process / service, with alignment between technology, product and market. The spin-off generated provides the necessary basis for advancing on to step consolidation and subsequent maturation of the company.

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