

The role of university business incubators in supporting entrepreneurship in Algeria

Case study of business incubator – El-Oued University

REDOUANE Adel¹MIGHRI Zouhayer²

University of El-Oued (Algeria)

University of Gafsa (Tunisia)

دور حاضنات الأعمال الجامعية في دعم المقاوالتية في الجزائر - دراسة حالة حاضنة الأعمال - جامعة بالوادي

زهير ميغري²عادل رضوان¹

جامعة قفصة (تونس)

جامعة حمه لخضر بالوادي (الجزائر)

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Summary:

This paper aims to highlight the role of university business incubators in supporting entrepreneurship among students, professors, and university graduates.

The study was based on the theoretical descriptive approach by reviewing previous literature in the field of research, books and periodicals, examining the practical reality of academic business incubators. It focused on the case of the business incubator at the University of Eloued. Interviews were conducted and information collected for analysis.

The study concluded that the Eloued university incubator has achieved remarkable results, especially in the field of patent registration for students, professors, and graduates, and accompanying innovative projects.

Keywords: business incubator; entrepreneurial; University; Scientific research; innovation

Jel Classification Codes : O320; O360

ملخص: تهدف هذه الورقة البحثية إلى إبراز دور حاضنات الأعمال الجامعية في دعم المقاوالتية لدى الطلبة والأساتذة وخريجي الجامعات، وقد اعتمدت الدراسة على المنهج الوصفي في الجانب النظري من خلال مراجعة الأدبيات السابقة في مجال البحث والكتب والدوريات، مع الاطلاع على الواقع العملي لحاضنات الأعمال الجامعية بالاعتماد على دراسة حالة حاضنة الأعمال لجامعة بالوادي من خلال اجراء المقابلات وجمع المعلومات من الوثائق والتقارير التي بحوزتهم.

وخلصت الدراسة إلى أن الحاضنة الجامعية بالوادي قد حققت نتائج ملحوظة، لا سيما في مجال تسجيل براءات الاختراع للطلبة والأساتذة والخريجين ومرافقة المشاريع الابتكارية.

الكلمات المفتاحية: حاضنة الأعمال؛ المقاوالتية؛ الجامعة؛ البحث العلمي؛ الابتكار

تصنيف JEL :: O320 ؛ O360

I- Introduction :

Until the early 2000s closed innovation was the form adopted by companies, in which research and development (R&D) were conducted only in their own laboratories, using significant resources. But, in the last decade, open innovation emerged as a new model, in which companies take advantage of the creativity of customers, suppliers, universities, research institutes or independent inventors, through partnerships, thereby obtaining more innovation, faster and with less spending. Inventions generated within companies that are not used may be offered to the market, getting additional revenue (Chesbrough, 2006)

In the early 1980s, was introduced the idea that universities must be entrepreneurial entities, and debates on how higher education institutions could be involved in economic growth, The recognition of the third mission has increased during the last decade, and it involves all relationships between the university and nonacademic partners, known as capitalization of knowledge. (Guerrero et al., 2016)

This intersection of relatively independent institutional spheres generates hybrid organizations such as technology transfer offices in universities, firms, and government research labs and business and financial support institutions such as angel networks and venture capital for new technology-based firms that are increasingly developing around the world. (Etzkowitz, 2008)

The universities have been as centers for entrepreneurship and economic growth, the research must be performed at a university. And spending a lot of public money on research is not enough. Even more important is how that money is spent. Programs awarded on merit, which aspire to scholarly excellence and publication, are far more helpful than those awarded on the basis of political connections and those whose results do not get published. Without publication, the government may lack any ability to monitor and benefit from research that public tax monies have funded (Chesbrough, 2006)

The_ problem of the study :

We try, through this research paper, to answer the following question :

How a university business incubator can support entrepreneurship ?And how effective is the Eloued university incubator?

-questions Sub:

- 1- What is the concept of university business incubator and entrepreneurship?
- 2- What is the impact of university business incubators on entrepreneurship?
- 3- How effective is the El-oued university incubator?

-hypothesis The study:

Tripping off studying From hypothesis Its effect: Role activation Incubators Business in Algeria ,by expanding its activities further and updating its business in line with what global experiences have reached, will lead to raising Capacity Competitiveness And philosophy Creativity and revitalization Initiatives Intellectual And corporate entrepreneurship Emerging, Is done Test this is The premise About Way General context Subject to search.

-Aim and importance of the study :

The study aims to identify the Role of University Business incubators in a support entrepreneurial and Developing Startup companies, with the aim of activating the role of universities business incubators to transfer scientific research to innovation and create startups for students, professors, and also the graduates.

as well as, The importance of this study stems from its focus on university business incubators and entrepreneurial, which are important to develop the role and effectiveness of universities, and this study is of interest also to decision-makers to contribute to editing Strategies On the local and national level With respect to By dilution From The unemployment and Create Opportunities to work.

-Previous studies:

(Hassan, 2020) This paper aims to analyze the link between universities and business incubators (BIs) and to determine how students, scientific researchers and entrepreneurs can benefit from this linkage. It creates an environment in which everyone can help the other to put their new ideas, special skills and abilities into new businesses. This paper adopts an analytical descriptive methodology approach to describe the basic features of the data by using the descriptive research

design. This research is based on examining a model provided by the author concerning boosting the entrepreneurial aspects and outcomes through university business incubators (UBIs) based on wide theoretical and empirical case studies. Also, the functional structural approach is used to investigate the relationship between two variables as UBIs are considered a new unit that has functions and structures to create an added value to universities and the society as a whole. Findings – The educational system should create a favorable environment that enables young people to develop their mindset from employees to employers, and to prepare them to improve skills and knowledge to create jobs. UBI is the recent aspect of the BI evolution where the research outcomes are linked with the industry and development. This relationship between these entities will provide success to its stakeholders. Social implications – Many incubators around the world are supported by universities. Others are making initiatives to link up with universities and higher education institutions to get the revenues and returns from its academic nature. Lately, university incubators became a type of incubator evolution and more supportive for entrepreneurs than other types of incubators. Originality/value – The contribution of this study is to explain how UBIs succeeded to tie the results of scientific research with economy and development through entrepreneurial activities to accelerate and realize entrepreneurship strategies.

- **(Sultania, 2014)** this study focused on the Constantine Incubator to know the reality of this incubator during the period 2008-2014, relying on desk surveys and access to the information bank for this incubator. A large legal vacuum has been reached to organize and operate these incubators since the issuance of the Directive Law. Executive Decree 03-78 of February 25, 2003 containing the organic law for the establishments' nurseries. Development of laws according to market requirements has not been added, and the support provided by incubators in Algeria is weak, and it in itself seeks support from the guardians.

(Stal, E., et al., 2016) Many Brazilian universities have technology-based incubators, but there is a small presence of firms created by students, alumni or teachers (spin-offs). Thus, such incubators do not encourage the transfer of technologies developed in universities to society, through the creation of new businesses, one of the main ways of university–industry interaction. To test this assumption, we studied eight university incubators. As a theoretical basis, we used the concepts of open innovation and entrepreneurial university; as a methodology, we adopted a qualitative approach through the use of bibliographical, documental and field research, with in-depth interviews. Results show that there is no priority for companies created from academic research results, despite the incubators' preference for projects that have a high potential for interaction with the university. Also, there are few efforts to attract the academic audience, which leads to underutilization of this important channel for the transfer of research results. Although there are many studies that dealt with the issue of business incubators, they do not address in detail the types of incubators that exist in Algeria and how they can activate their activities based on what other countries have achieved. Therefore, this research paper attempts to contribute to bridging this research gap by presenting the types of incubators present in Algeria, addressing international experiences and trying to project them on the Algerian experience.

Study methodology and structure :

The study uses the descriptive and analytical approach to shed light on university business incubators and their role in supporting entrepreneurship. A case study of the business incubator at Eloued University is also used, and information is collected from websites and available references, in addition to conducting interviews to see the reality of the business incubator and its role in supporting entrepreneurship and transferring the research of students, professors and graduates to patents and startups. In order to understand the aspects of the subject the remainder of this paper was divided into the following axes: (I) introduction; (II) Literary review; (III) Study case: business incubator - Eloued university; (IV) discussion; (V) Findings and recommendations.

II- Literary review:

1- University business incubators

The university achieves three essential activities – teaching, research and entrepreneurship – while providing an adequate atmosphere in which the university community can explore/exploit ideas (Guerrero & Urbano, 2012). Universities, sources of two most valuable assets for economies: highly educated people and new ideas. Through their teaching, universities disseminate knowledge and

improve the quality of human capital employed in society; through the research they perform, universities extend the horizons of knowledge; and by their third-mission activities, they transfer their knowledge to society (Veugelers, 2016). And Universities offer ideal start-up platforms for entrepreneurship because they bring together existing networks of ambitious people while providing a stable foundation for collaborating on research, developing intellectual property, and supporting the invention of new products and services that can be commercialized., have sizable faculty, staff, and student, and they support entrepreneurs who are operating in multiple and entrepreneurial ecosystems. (Pellegrini & Johnson-Sheehan, 2020).

University business incubators (UBIs) are uniquely positioned to foster transnational entrepreneurship and the evolution of business and technical communication practices on a worldwide basis. UBIs facilitate the launch of start-ups by professors, students, researchers, and local entrepreneurs. (Pellegrini, 2020).

in the last decade, open innovation emerged as a new model, in which companies take advantage of the creativity of customers, suppliers, universities, research institutes or independent inventors, through partnerships, thereby obtaining more innovation, faster and with less spending. Inventions generated within companies that are not used may be offered to the market, bringing additional revenue (Chesbrough, 2006)

2- Entrepreneurship in university

As early as the late 19th century, the formation of firms out of research activities at MIT and Harvard took place in the fields of industrial consulting and scientific instrumentation. However, these commercial entities were viewed as anomalies rather than as a normal outcome of academic research activities. Until the past two decades this skeptical view of reformation was taken for granted by most faculty members and administrators at liberal- arts research universities, as well. In recent years liberal- arts universities have revised their view, making firm- formation part of the academic enterprise through the formulation of policies regulating faculty participation and the establishment of administrative mechanisms such as licensing offices and incubator facilities to encourage the trend (Etzkowitz, 2008)

In the university context, entrepreneurial innovation university ecosystems are integrated by educational programs, infrastructures (incubators, research parks, technology transfer offices, business creation offices, employment offices), university regulations (business creation normative, property rights), university culture (role models, attitudes towards entrepreneurship) as well as relationships with government, investors, industry and other socio-economic agents an entrepreneurial university could be defined as a survivor of competitive environments with a common strategy oriented to being the best in all its activities (e.g., having good finances, selecting good students and teachers, producing quality research) and tries to be more productive and creative in establishing links between education and research (Kirby, 2005). Increasingly higher educational institutions are being required to operate more entrepreneurially, commercializing the results of their research and spinning out new, knowledge-based enterprises) (Guerrero et al., 2006)

An Entrepreneurial University is defined as an university that have the ability to innovate, recognize and create opportunities, work in teams, take risks and respond to challenges, on its own, seeks to work out a substantial shift in organizational character so as to arrive at a more promising posture for the future. In other words, is a natural incubator that provides support structures for teachers and students to initiate new ventures: intellectual, commercial and conjoint. (Clark, 1998)

The “capitalization of knowledge” is the heart of a new mission for the university, linking universities to users of knowledge more tightly and establishing the university as an economic actor in its own right. An entrepreneurial university rests on four pillars: academic leadership able to formulate and implement a strategic vision; legal control over academic resources, including physical property such as university buildings and intellectual property emanating from research; organizational capacity to transfer technology through patenting, licensing, and incubation; and an entrepreneurial ethos among administrators, faculty, and students. (Etzkowitz, 2008)

A major conclusion from the articles in the special issue is that the concept of the entrepreneurial university can have many different meanings depending on the academic context. The local academic environment could have a strong impact on both attitudes toward entrepreneurship and choice of external partners for research collaboration. This situation, regardless of whether it involves junior or senior researchers, is highly challenging strategically for university leaders; for

the implementation and coordination of entrepreneurial activities; and for activities that are internal as well as external to the university (Klofsten, 2018)

Ten Key Messages for Innovation through Incubation (Kohlert, 2019)

1. Team beats technology: A good team can handle a lot; just a good technology without the team does not do much.
2. In the incubator/accelerator programs of companies, new business areas are the exception, almost always a certain proximity to the existing business is given. Is it really intended to pass on input from other industries?
3. When assessing start-up candidates, you should focus on the essentials, i.e. “B2B = back to basics”: What is special, how can you make money from it, how is the service provided and who should buy it and why?
4. A stronger focus on marketing and the awareness that wonderful business ideas are also finite. This requires responding to completely different types of customers at each stage.
- 5-Forces to gain an overview of the industry structure and the competitive environment, the SWOT analysis to determine their own strengths and the resulting options for action, working with the “Buying Center” in the acquisition of new customers, and the “Business Opportunity” analysis to identify new business opportunities for new customers and later for existing customers.
6. Interaction in the new team of start-up talents and own corporate talents: Internal employees are brought together with experienced entrepreneurs coming from outside and the team works together to develop topics.
7. A few “lead users” do not constitute a mass market! Therefore, the “typical users” are more important, unless you deliberately choose a niche!
8. Working with the Business Model Canvas as a way to manifest the current state and to identify the gaps.
9. Methods must be known to the start-up, e.g. Business Model Canvas, Porter's
10. Sooner or later, one will not get past KPIs for early risk minimization and criteria for exit, but also for measuring one's own success. So far, revenue is considered as an indicator for whether “it can work”!

III- Study case: business incubator - Eloued university

The business incubator at Eloued University Located in the Ex university center was established in accordance with Ministerial Resolution N°118 issued on October 08, 2020, as it is considered one of the first business incubators within the eight universities incubators at the national level. Administratively affiliated with the National Agency for the Evaluation of the Results of Scientific Research and Technological Development ANVREDET of the Directorate of Research at the level of the Ministry of Higher Education and Scientific Research DGRSDT, managed by an incubator director appointed by the university administration and sends his file to the National Agency for the valorization of the results of research and technological development

The tasks of the director of the business incubator are to form a committee to select projects, and it includes a group of professors and economic partner and representative of ENVREDET who works on selecting the ideas and projects related to the scientific research of students and professor and the graduates. The incubator administration is also working on forming the manager council of the incubator, which consists of the director of the incubator, the vice president of the University for External Relations and representatives of ANVREDET:, representatives of economic partner.

The aim of business Eloued university incubator is to transfer the ideas related of the research to enterprises

According to the incubator activity outcome card in 05/01/2022 ,the business incubator of Eloued University has obtained an incubator label:

Total number of incubated projects: 29

Total number of activities completed: 85

Number of projects transformed into startups: 00

Number of economic and social partners of the incubator: 08

1- Business incubator phases:

When the candidate applies to the Business Incubator at Eloued University, he will go through several steps, which are as follows:

It is required that the idea to be related of scientific research, and the idea must be characterized by originality and clarity and be a solution to an existing problem.

After accepting the idea, it will pass to the second stage, which is the selection stage. This stage will be taken by a coordinating council consisting of:

2- Structures of Business Incubator- Eloued University

The organizational structure of the incubator consists of three levels: the administration council, the director and an accreditation committee

The incubator director is the head of the incubator and is responsible for managing the daily incubator and is assisted in his tasks by a technical administrative staff that includes an accountant, secretariat.

3- Business incubator tasks:

- Providing training and consulting services to the owners of ideas and developing their ideas to be Ready for implementation as well as working on the commercialization of the entrepreneurial idea;
- Support creativity and innovation by providing accompaniment, services, expertise, equipment, studies Economic feasibility, technical and administrative consultations to reach economically feasible projects, Unconventional innovative technology, and the signing of partnership agreements with the supporting organizations to communicate with the entrepreneurs and access to appropriate support for their start-ups;
- Nominating incubated projects to participate in local, regional, national, and international competitions;
- Financial support for innovative ideas and projects;
- Seeking mediation between idea porters and economic and social partners to develop ideas into field projects and solutions;
- Overcoming bureaucratic obstacles for idea porters that they may be exposed to during the stages of embodiment Startup idea.

4- Patents registered by the incubator:

El-oued University is the second nationally in terms of filing 25 patent records for the academic year 2020-2021.

The patent records filed at the (INAPI) level, are the result of the ideas and efforts of professors and students of the faculty of Science and Life, the faculty of Technology and the faculty of Exact Sciences. (INAPI, 2020)

The University of El-oued has concluded a partnership and cooperation agreement between it and the National Institute of industrial Property; this has encouraged the business incubator and its success to registering many patents For students with incubated ideas at the incubator level, we list these patents as follows:

It is noted from the previous table that the incubator has succeeded in attracting the most important ideas, especially industrial ones including, incubating them, taking them to advanced stages. And even registering them as patents, which confirms the process of entrepreneurial education at the level of the University of Eloued in general and its business incubator in particular it was effective and has a strong impact in implanting the entrepreneurial orientation of establishing startups among students.

5- Incubator startups

The business Incubator of Eloued University has remarkable activity since its inauguration, which is reflected in it the great numbers of students with ideas, as there are startups that progressed from the incubator and were its embodiment on the ground and others still in the incubation stage, and are represented in:

- **Existing startups:**

The business incubator of El-Oued University is seeing great activity, which is reflected in it the high demand from students with ideas, and the following is a group of startups under establishment

Most of them are in an advanced proportion of embodiment, which is shown in the following table:

- **Graduated Startup:**

Graduated startup from the Business Incubator of Eloued University that is HB Auto Electronic,

The field of work of this startup is Automobile online training has a site web

(<https://hbtronics.online/>). HB TRONICS Performance means high precision individual tuning for all types, diesel or gasoline engines. For any type of car, truck, bike, boat or even tractor.

All of files made by professional car software engineers, fine-tuned and tested on high precision File service available 24/7 Due to innovative system will receive file in less than a minute in any located

Offers training via recorded video technology Aimed at students of universities and institutes also technicians in automotive workshop. The kinds of these courses are us follow:

- Formation Automatic Gearbox Maintenance and Reprogramming
- Formation Reprogramming and Repair of Automotive ECUs
- Formation Diagnostic Auto

Discussion:

Information about the business incubator at Eloued University and some other universities in Algeria reveals the preference for projects from the academic community, or those related to university research.

The results also show that the absorption capacity of the business incubator at Eloued University is receiving projects (between three and 10), this results in few firms graduating. Hence, efforts to attract an academic audience (through lectures, events, or entrepreneurship classes) are limited by the low level for reception capacity of new interested companies.

The “spirit” of entrepreneurship is still fragile in Algerian universities, given that they follow the public sector, funded by the state, and most Algerian universities focus on teaching. And scientific research activities for the post-graduation departments, while the domains of entrepreneurship are still confined to very narrow spaces related to some courses and consultations or the registration of some patents.

There are good results for the incubator at the level of registered patents and at the level of activities. However, the transformation of these inventions into emerging institutions is almost non-existent, due to several reasons, including that the incubator is still at the beginning of its activity and does not have the necessary capabilities such as FAB-LABs and a team every one working in its specialization, in addition to weakness of the marketing depend to business incubator; These achievements are as many of the economic dealers and owners of capital do not know that there is a business incubator at the level of the Eloued University and do not know its role and his results.

IV- Findings and Recommendations:

We reached **the** following most important **results:**

- It's still an idea of incubators The business is largely unknown among Sing Society, Even business idea holders often do not have a clear picture about incubators and how to benefit from them.

- There is still a problem of the low numbers of professors and students to register patents with the university, due to the fear of many of them not to benefit from this registration, but after the issuance of new laws to value patents and calculate them as a scientific article class B within the professor's path, this will encourage professors and doctoral students to turn more towards registration Patents.

- As for the students and professors participating in competitions for innovation and startups, they make great efforts to obtain the first ranks, but after their coronation they do not receive prizes that encourage them to continue. Therefore, more attention must be paid to this aspect to enable these elite to continue their work and innovations and provide them with the possibilities to transform these inventions into startups.

-The statute of university business incubators in Algeria still needs a lot of revisions, especially with regard to more openness towards all parties of society, because the university business incubator is supposed to search for ideas that solve problems in society and then help transform them into startups, and in this way the university enters as a partner Win, win with these companies, and everyone benefits.

- The organizational structure of university business incubators is still not clear and needs revisions to form staff that can effectively manage the university business incubator and encourage the management team of these incubators to enter as a business partner to achieve the concept of entrepreneurship up to the method of administration university business incubators

Accordingly, the following **recommendations** can be formulated:

- The necessity of establishing a new statute for university business incubators that give authorities to these incubators to work more freely to increase the spirit of initiative among managers and for all the staff.
- Allowing the necessary capabilities to develop university business incubators and to facilitate their work in terms of FABLABs, equipment and sources of funding...etc. ; so that they can attract the largest number of inventors and porters of innovative ideas and projects.
- The necessity of opening university business incubators to all varieties of society, so that these incubators can develop the business environment and create an atmosphere of cooperation in order to solve problems that require the collaboration and cooperation of a group of actors inside and outside the university so that ideas and inventions are transformed into startups that work in the market and produce and solve several technical problems and economical.
- Increasing the publicity of university business incubators to expose their role, goals and importance, by participating in television and radio meetings and on social media, as well as by organizing open doors for students, professors, economic dealers and all members of society to introduce the activities of the university business incubator and open new horizons to attract innovators and link them to the incubator and to the economic dealers who They are interested in these inventions to cooperate with each other to turn them into start-up projects.

Referrals and references:

- Chesbrough, H. W. (2006). Open innovation: The new imperative for creating and profiting from technology. *Cambridge, MA: Harvard Business School press.*
- Clark, B. R. (1998). Creating Entrepreneurial Universities. *Oxford: Pergamon.*
- Etzkowitz, H. (2008). *The Triple Helix University–Industry–Government Innovation in Action.* New York: Taylor & Francis e-Library.
- Guerrero, M. U. (2016). Entrepreneurial universities: emerging models in the new social and economic landscape. *Small Bus Econ* 47, .(<https://doi.org/10.1007/s11187-016-9755-4>), 551–563.
- Guerrero, M., & Urbano, D. (2012). The development of an entrepreneurial university. *The Journal of Technology Transfer*, 37 (1), pp. 43-74.
- Guerrero-Cano, M., Urbano, D., & Kirby, D. (2006). A LITERATURE REVIEW ON ENTREPRENEURIAL. *Departament d'Economia de l'Empresa.*
- Hassan, N. A. (2020). University business incubators as a tool for accelerating entrepreneurship: theoretical perspective. *Review of Economics and Political Science.*
- Pellegrini, M., & Johnson-Sheehan, R. (2020). The Evolution of University Business Incubators: Transnational Hubs for Entrepreneurship. *Journal of Business and Technical Communication.*
- Pellegrini, M., Johnson, R., & Sheehan. (2020). the Evolution of University Business Incubators: Transnational Hubs for Entrepreneurship. *journal of business and technical communication*, 185-218.

Stal, E., & al., e. (2016). The role of university incubators in stimulating academic entrepreneurship. *RAI Revista de Administração e Inovação*.

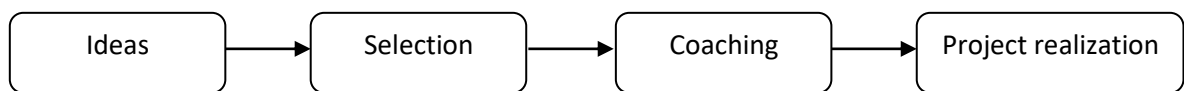
Klofsten, M., (2018) *Technological Forecasting & Social Change*, <https://doi.org/10.1016/j.techfore.2018.12.004>

Kohlert, H (2019). *Innovations with Incubation: Recommendations for Corporate Incubators and Corporate Accelerators – Based on an Empirical Study*, Proceedings of the 30th DAAAM International Symposium, pp.0733-0737, B. Katalinic (Ed.), Published by DAAAM International, ISBN 978-3-902734- 22-8, ISSN 1726-9679, Vienna, Austria

Veuglers, R. (2016). The embodiment of knowledge: universities as engines of growth. *Oxford Review of Economic Policy*, 615–631.

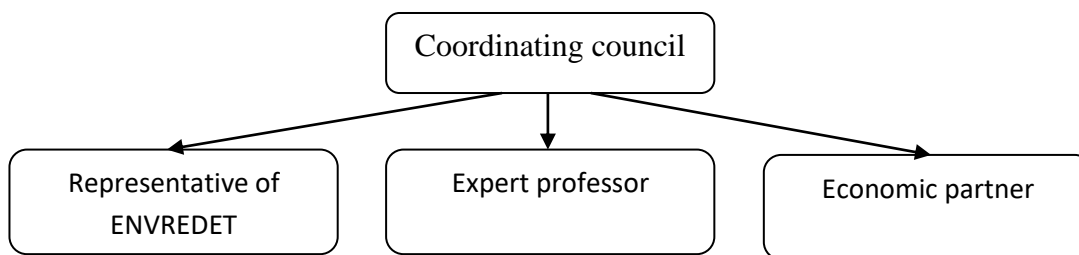
Appendices:

Figure N° (01): Business incubator phases



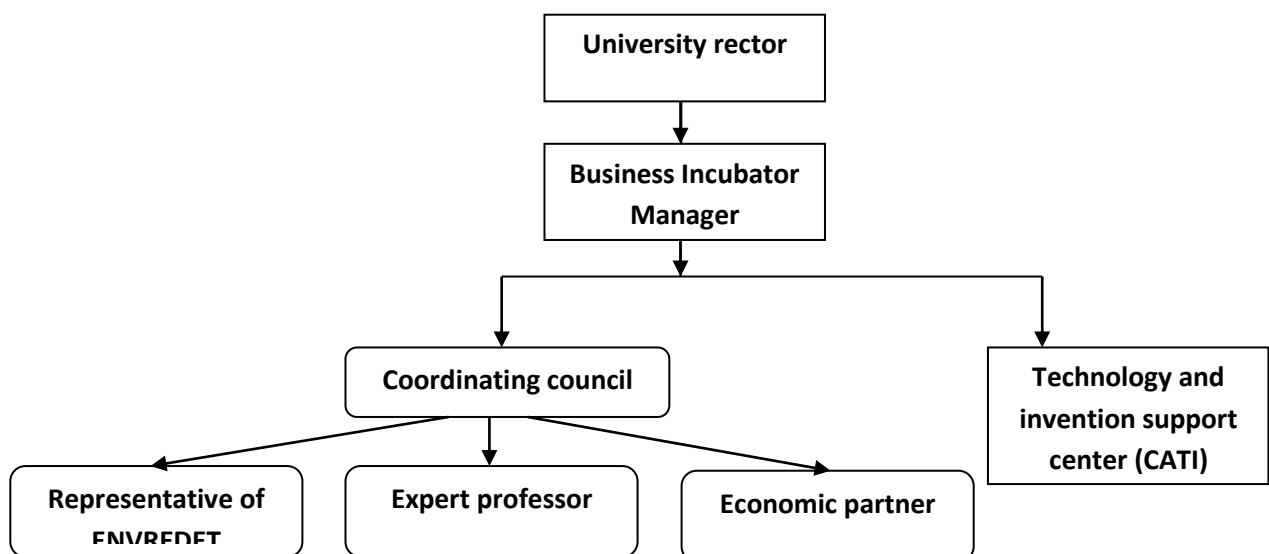
Source: Prepared by the researcher based on information from the business incubator-Eloued University

Figure N° (02): structure of coordinating council



Source: Prepared by the researcher based on information from the business incubator-Eloued University

Figure N° (03): Organizational Structure of the Business Incubator of El-oued University



Source: Prepared by the researcher based on information from the business incubator-Eloued University

Table N° (01): Patents registered by the incubator

| N° | Registration number | Registered patent |
|----|---------------------|---|
| 01 | 210417 | Method for attaching semantic symbols to electronic texts to improve machine translation accuracy |
| 02 | 210390 | Multifunction robot in tubes and channels |
| 03 | 210418 | Uses of Oil Well Drilling Waste - Sand - in Concrete and as a Substitute for Good Soil |
| 04 | 210374 | Air conditioner based on geothermal energy and its use in poultry farming |
| 05 | 210416 | Production of Silica and Silicon from Algerian Desert Sands |
| 06 | 210428 | Motor protection device for submerged water pumps |
| 07 | 210446 | Production of a bioplastic film based on starch and sulfated polysaccharides of green algae |
| 08 | 210453 | Drinking drops against inflammation, stomach ulcers, colon pain and gas. |
| 09 | 210440 | Maintenance of electronic and mechatronic units of vehicles and resolution of their technical malfunctions online |
| 10 | 210423 | Method for predicting the total content of polyphenols in plants using a mathematical model |
| 11 | 210421 | Aerosol consists of small natural products synthesized from an extract of purslane as an antioxidant and against inflammation of the throat |
| 12 | 210422 | Hydrogel consists of nano-sized zinc and copper made from purslane has the ability to activate memory cells, the nervous system and protect against neurodegeneration |
| 13 | 210436 | Anti-inflammatory dressings prepared from clay and natural products |
| 14 | 210441 | Protective mask with an antimicrobial filter |
| 15 | 210442 | Natural complex formed by local plants to restore thyroid function |
| 16 | 210443 | Formulation of nanoparticles based on animal products to carry, keep and convey the active ingredients in the body |
| 17 | 210444 | Cream based on plants and natural anti-inflammatory substances and for superficial burns |
| 18 | 210445 | Gelatinous tablets to protect the heart from the side effects of chemotherapy in cancer patients |
| 19 | 210447 | Antiseptic medical compresses for diabetic wounds |
| 20 | 240448 | Tablets made from natural products that stimulate insulin production and reduce the effects of diabetes |
| 21 | 120189 | Method for measuring the total antioxidant capacity of foods |
| 22 | 210458 | Multifunction solar unit (solar dryer, solar still, solar water heater, solar cooker) |
| 23 | 210781 | Exploitation of wastewater by evaporation in desalination centers for the production of distilled water into an air conditioner dependent on geothermal energy. |
| 24 | 210581 | Rescue system for victims inside narrow tubes and channels |
| 25 | 210715 | cooling of solar distillers by geothermal energy (autonomous system) |

Source: business incubator, Eloued University

Table N°. (02): Projects awarded the Innovative Project Mark

| N° | The name of the project | National patent | Name of the socio-economic partner | Innovative project mark |
|----|--|-----------------|------------------------------------|-------------------------|
| 01 | Multifunction robot in tubes and channels | X | ANVREDET + Albelt | X |
| 02 | Uses of Oil Well Drilling Waste - Sand - in Concrete and as a Substitute for Good Soil | X | DRE-W.ELOUED | X |
| 03 | ELIRFAN platform for collective knowledge projects | X | SMART TECHNOLOGY | X |

Source: business incubator, Eloued University, Annex N°. 03: Incubator activity proceeds card-05-01-2022

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