

Business University Incubators in Algeria: A New Mechanism for the Promotion of Start-ups - M'sila University Incubator Model

حاضنات الأعمال الجامعية في الجزائر: آلية جديدة لترقية المؤسسات الناشئة – حاضنة جامعة المسيلة نموذج

Samah EL CHEIKH¹

Côte D'Azur University – France

samah.el-cheikh@univ-cotedazur.fr

Amina MEZIANE

ALPEC Laboratory, M'hamed

Boumerdes University -Algeria

am.meziane@univ-boumerdes.dz

Abderrahmane BENANTAR

ALPEC Laboratory, M'hamed

Boumerdes University -Algeria

a.benantar@univ-boumerdes.dz

Received: 13/11/2022

Accepted: 20/02/2023

Published: 03/03/2023

Abstract:

This study tackles the topic of university incubators and their importance in supporting and accompanying start-ups in Algeria with a model review of the incubator of the University of M'sila. This is in light of the growing interest in these institutions, which are relied upon to be the basis of the new economic model that aims to achieve economic development outside the hydrocarbon sector. In this context, this research aims to clarify the role and reality of start-ups and university business incubators in Algeria, and focus on the business incubator of the University of M'sila as a model. The results of the analysis and study confirmed the essential role of university business incubators in supporting and accompanying the creation of start-ups by university students and researchers. Based on the experience of the University of M'Sila incubator, the first and most active and dynamic university incubator in Algeria in terms of the number of incubated projects, the number of "Innovative Project" marks obtained, the number of files filed for patents, as well as the number of training courses offered, demonstrations and competitions in which they participate. All project holders interviewed emphasize the positive impact and the importance of the M'sila incubator and the services it provides, enabling them to lead in their entrepreneurial path and embody their start-ups.

Key words: start-ups, support and accompaniment, university business incubator, Algeria, M'sila.

ملخص:

تتناول هذه الدراسة موضوع حاضنات الأعمال الجامعية وأهميتها في دعم ومرافقة المؤسسات الناشئة في الجزائر مع استعراض حاضنة جامعة المسيلة نموذجا لذلك في ظل الاهتمام المتزايد بمهذ المؤسسات التي يعول عليها أن تكون أساس النموذج الاقتصادي الجديد الذي يهدف إلى تحقيق التنمية الاقتصادية خارج قطاع المحروقات. ولذلك يتطلب تحقيق هذا الهدف توفير عدة أجهزة دعم ومرافقة لترقية قطاع المؤسسات الناشئة على غرار حاضنات الأعمال ولاسيما حاضنات الأعمال الجامعية. في هذا الإطار، يهدف هذا البحث إلى تبيان دور وواقع المؤسسات الناشئة و حاضنات الأعمال الجامعية في الجزائر، والتركيز على حاضنة الأعمال لجامعة المسيلة نموذجا لذلك. حيث توصلت نتائج التحليل والدراسة إلى تأكيد الدور الجوهري لحاضنات الأعمال الجامعية في دعم ومرافقة استحداث المؤسسات الناشئة من طرف الطلاب والباحثين الجامعيين استنادا إلى تجربة حاضنة جامعة المسيلة أول حاضنة جامعية في الجزائر وأكثرها نشاطا وديناميكية من حيث عدد المشاريع المحتضنة وعدد علامات "مشروع مبتكر" المحصل عليها وكذا عدد الملفات المودعة للحصول على براءات الاختراع وكذا من حيث عدد الدورات التكوينية المقدمة والتظاهرات والمسابقات المشاركون فيها حيث يؤكد كل حاملي المشاريع المستجوبين على التأثير الإيجابي وأهمية وجود حاضنة المسيلة والخدمات التي تقدمها وتمكينهم من الريادة في مساهمهم المقاولاتي وتحميد مؤسساتهم الناشئة.

الكلمات المفتاحية: حاضنات الأعمال الجامعية، المؤسسات الناشئة، الدعم والمرافقة، المسيلة، الجزائر.

¹ - Corresponding author: Samah EL CHEIKH, samah.el-cheikh@unice.fr, samah.el-cheikh@univ-cotedazur.fr.

1. INTRODUCTION

The issue of emerging institutions and business incubators recently have become an interesting issue in Algeria on the part of public authorities, academic researchers and professionals alike, with Algeria heading towards establishing start-ups as a primary sector to support economic development outside hydrocarbons and in light of a business environment characterized by many difficulties and shortcomings, business incubators have emerged in Algeria As the most important mechanism to support and accompany the creation and success of emerging enterprises like all countries.

In light of the low performance of major economic institutions and the decline in the number of foreign investment institutions, Algeria is now betting on start-ups with economic and investment content, in addition to small projects as the most appropriate for the country's conditions, especially to provide development, create employment opportunities and reduce unemployment.

Due to the association of start-ups with creative ideas based on the modern technology sector, the university has emerged as a key player in the ecosystem of emerging institutions through a university business incubator that specializes in valuing the results of scientific research and supporting and accompanying the stages of converting them into marketable products. Algeria is trying to make up for its delay in the field of start-ups and business incubators by focusing on university incubators with a technological orientation, the first of which was the incubator of the University of M'sila, which was established in 2019.

1.1 The problem of the study:

We will try to answer the fundamental question of the nature of the problem, which is embodied in the following:

What is the role of the university business incubator - Al-M'sila as a model - in the creation start-ups?

The investigation into this issue also examines the influence of the university incubator on many points:

- The decision to establish the institution and the evaluation of the project idea;
- Acquisition of personal qualities, behaviors and skills of contractors;
- -Training in project creation and management;
- Support and accompaniment during the various stages of the madding of the start-ups.

1.2 Study hypothesis

In order to adress the problem of the study, the hypothesis was formulated as follows:

The university business incubator - Al-M'sila as a model - plays an important role in the process of creating start-ups through the various services it provides. It positively affects the decision to establish the institution, acquiring personal qualities, behaviors and skills of contractors, training, support and accompaniment during the various stages of the path of establishing the start-ups.

1.3 The importance of the study:

This research is based on a field study that includes project holders incubated in a university incubator. The extreme risk and the acceleration of the stages of its establishment, which makes it in dire need than other institutions for support and accompaniment, where the importance of university incubators emerges. On the other hand, drawing out the strengths and weaknesses of the services provided, will allow us in the end to propose a set of recommendations that will develop the university incubator sectors and thus the start-ups sector in Algeria.

1.4 Objectives of the study:

In light of the importance of the study and the nature of the problem, it is intended to reach the following objectives:

- Defining the general and legal concept of the start-ups in Algeria;
- Shedding light on the concept of university incubators and presenting the situation in Algeria;
- Reviewing the experience of the business incubator of the University of M'sila as a model that can be followed by other university incubators in Algeria;
- Diagnosing and evaluating the level of services provided by the business incubator of the University of M'sila, from the point of view of the incubated project holders.

1.5 Study Methodology:

The research was designed based on the relevant descriptive and analytical methodology to describe and diagnose the research phenomenon by addressing the various basic concepts related to start-ups and business incubators and their reality in Algeria. Validity of data collected by interview with incubated project holders as a data collection tool.

1.6 Previous studies:

Although the literature of this research is rich in many studies and within the limits of the survey conducted by the researchers, we review a set of topics related to the research under study and shed light on the most important aspects that these studies focused on, which dealt with the subject of university incubators and their importance in promoting start-ups, including the following:

(**BAKHITI and BOUAOUINA ,2020**). This study presented the reality of emerging, small and medium enterprises in Algeria, while working to derive the most important challenges that stand in the way of the spread and prosperity of these enterprises and activate their contribution to the economic and social development in the country. The results of the study showed that small and medium enterprises are one of the pillars of economic and social development in Algeria. This is in relation to its contribution to the national income, creating added value, absorbing unemployment and contributing to employment.

(OULED HIMOUDA and SHANINI , 2018). The study focused on the role played by the accompanying bodies by focusing on business incubators to provide the tips for success and the development of the small and medium enterprise sector in Algeria. The study found the need to expand the powers of business incubators as the most important accompanying body in Algeria.

(BEN KATTAF, 2008). The study focused on technical incubators in Algeria and ways to promote them, and the extent of their contribution to the development of small enterprises where the researcher found that technical business incubators enjoy great interest in developed and developing countries, as they have proven their ability to help institutions, with a delay in the field in Algeria.

(BOUCHOUR, 2017). The study focused on highlighting the role of business incubators in supporting and developing emerging enterprises with the case study of Algeria, where these incubators have known great popularity in supporting emerging enterprises, small and medium, by providing various services such as training, financial and network support, marketing, ... Etc., which positively affected the economies of developed countries in particular, and the study concluded that the idea of business incubators contributing to enhancing the presence and development of start-ups in developing countries, especially in Algeria, faces many challenges, especially those related to sustainability and creativity.

1.7 Commenting on previous studies and the contribution of the current study:

The previous studies mentioned above are concerned with presenting the reality of emerging companies and their development challenges, in addition to researching mechanisms and devices to support and accompany these companies, especially in Algeria, and from this point of view, we can say that our research paper focuses on one of the most important types of business incubators that is closely related to the emergence and emergence of start-ups. This is related to university incubators that were specifically established to support and accompany researchers and university students who are considered the most founders of start-up companies due to their high educational level and scientific research that allows them to find creative ideas with a technological orientation.

1.8 study Plan:

The research was divided into three main axes according to the method that enables the interconnection and homogeneity of its parts and the integration and sequencing of its ideas. The first axis deals with the basic concepts of startups and their reality in Algeria; as for the second axis, it was devoted to diagnosing the reality of university incubators in Algeria. While the third axis, we dealt with a case study of the business incubator of the University of M'sila as a model for university incubators in Algeria.

2. Startups in Algeria

The concept of start-ups appeared at the end of the seventies in the United States of America with the development of the venture capital sector that became the mainstay of the economies of developed and developing countries. The economy outside hydrocarbons, was evident in the establishment of the Ministry of Micro Enterprises, Emerging Enterprises and the Knowledge Economy.

2.1 Concept of startups:

There is no agreed scientific or legal definition of emerging enterprises and it is often confused with small and medium enterprises or newly established enterprises.

Lexically: It is a translation of the English term (start-up), which refers to the idea of launching and strong growth. The adoption of the term startups is due to the English term startups, which is used to identify newly established companies. It contains two complementary parts, so that the first part of the term (start) indicates the beginning of the idea, while its second part (up) symbolizes strength and growth. Accordingly, the first appearance of startup companies was in the United States of America, immediately after World War II, following the spread of venture capital companies, which were mainly concerned with the technology sector, especially information and communication technology. (BOUCHOUR, 2017. P 420).

Contextually: according to Paul Graham, a startup is not merely a newly founded company; it is a business that is intended to grow quickly. Generally, startups are those based on advanced technology and/or highly innovative and high-growth business models (Hassen, 2020. P 05). Patrick Fridenson also emphasizes that startups should not be tied to a specific age, size or specific sector, but should include the following criteria: strong potential growth, use of modern technology, huge financing needs and the presence of new markets (BOUCHOUR, 2017.P 420).

Accordingly, we can say that every company has strong growth opportunities in the near future and seeks to develop a product or service in new markets, based on innovative business models in the modern technology sector, which is characterized by a significant ability to achieve the required growth with the availability of appropriate financing at the right time in order to ensure its continuity.

2.2 Characteristics of Startups

In the absence of a unified definition, it is important to review the characteristics of emerging institutions in order to gain a greater understanding of the content of this concept as follows:

- They are young companies with a high probability of success
- It depends mainly on modern financing sources such as venture capital, business angels and participatory financing, which are compatible with the nature of the risks it faces, especially in its early stages;
- The possibility of achieving high and increasing revenues and decreasing costs thanks to the potential growth opportunities, which give it the ability to obtain high profits;
- However, during its life cycle you may know phases of stagnation and fluctuation. This cycle begins with research and development and then start-up by developing research results into marketable products: the success of this process leads to rapid growth;
- Continuous growth opportunities are due to its reliance on the embodiment of creative and innovative ideas, which gives it a competitive priority for targeting new markets;

- Mostly, these creative ideas are based on the modern technology sector;
- The founder is usually the main employee, which allows quick decision-making and problem-solving thanks to the flexibility of the organizational structure in start-ups.
- This speed is very important in start-ups , as they are active in a business environment characterized by acceleration and continuous change, which necessitates adaptation and rapid response to changes and market requirements in order to enhance their performance and effectiveness. According to a study by Bill Gross, the time factor is more important than the work team, the business idea, the business model, and funding for the success and continuity of the start-up enterprise (Entrepreneurship website, 2021).

2.3 Defining startups from the Algerian legislator's point of view

In accordance with Algeria's desire to adopt emerging institutions as a lever to achieve economic development, Executive Decree No. 20/254 of September 15, 2020 was issued where start-ups were defined according to the following conditions: (Issue 55,2020, pp. 11-13)

- That the institution is subject to Algerian law, that is, it operates within Algerian territory;
- It should not be more than 8 years old, since granting the mark of a startup remains active for 4 years, then it can be renewed once for another four years;
- Its activity is focused on the production of goods or services that include an innovative ideas;
- That its turnover does not exceed the maximum turnover criterion for granting the status of a small and medium enterprise; that the enterprise's activity includes significant growth potential
- That the number of its workers does not exceed 250 (as is the case in the ceiling of the number of small and medium-sized enterprises workers);
- At least 50% of the company's capital must be owned by natural persons, approved investment funds, or another start-ups small and medium enterprise; that the enterprise's activity includes significant growth potential;

This executive decree represents the new legal and legislative framework for the activities of emerging institutions, as it paved the way for many new procedures aimed at facilitating their establishment and determining methods for evaluating their performance, such as granting a mark (branding) to a start-up or an innovative project in order to facilitate obtaining concessions, financing, and offers from sectors and public institutions such as:

- Launching an electronic platform that allows building a central data for all active parties in the startup ecosystem to be a source for future partnerships with the best public or private companies in various future projects;
- Providing financial support and accompanying them through the establishment of the National Fund for Financing Startups;

- Granting fiscal incentives (such as tax exemptions on profits and exempting exports of digital services and start-ups from bank localization procedures);
- Diversifying its real estate assets, such as the decision to allocate 3,000 commercial stores for the benefit of the founders of emerging institutions.

2.4 Startups success factors:

The success of start-ups requires the availability of an ecosystem that encourages the emergence of creative ideas, facilitates the evaluation and exploitation of business opportunities, and ensures the continuity of entrepreneurial activities, especially the diversity and ease of access to funding sources, in addition to the strength of support and accompaniment services. Projecting the reality of these components on the case of Algeria shows the presence of several shortcomings on several levels, such as the difficulty of the business climate Business and the multiplicity of administrative procedures that it entails, the length of their duration, the multiplicity of those involved in them, as well as the weight of tax obligations; In addition to the limited sources of funding and their incompatibility with the nature of the activities of emerging institutions, this is in light of the weak entrepreneurial culture and the weakness of creative and innovative activities, as well as the fragility of strategies for valuing scientific research.

This situation prompted the public authorities to focus on support and accompaniment devices, especially university incubators, for several reasons, perhaps the most important of which is the close link between creativity and the university, the “traditional and basic source of creativity, innovation and development” on the one hand, and the success of emerging institutions and incubators on the other hand, as the latter are devices designed specifically for the success and development of incubated institutions. By supporting it with a range of resources and services based on the specific needs of each incubated project

3. The reality of university incubators in Algeria

Incubators emerged at the end of the eighties and became an essential part of the ecosystem of entrepreneurial projects and start-ups in particular.

3.1 The concept of incubators:

Incubators are the most important support and accompaniment devices thanks to their success in supporting the continuity of institutions as an “integral system that considers every small project as a newborn that needs superior care and comprehensive attention, so it needs a nursery that includes it since its birth to protect it from the dangers that surround it and provide it with the energy of continuity, and gradually push it After that, to be strong, capable of growth, qualified for the future, and equipped with activities and mechanisms for success” (Jawad, 2007, p. 116). It is also defined as “an organization specifically designed to accelerate the growth and success of entrepreneurial companies through a series of resources and support services that include: necessary space, financing, training, public services and communication networks” (Masmoudi, 2007, p. 72).

The success of the incubators is due to the nature of the integrated services that they provide in terms of providing accommodation, training and training, experiences and consultations in the field

of financial studies, marketing, legal, financing, logistics services, as well as linking with various networks of relationships...etc.

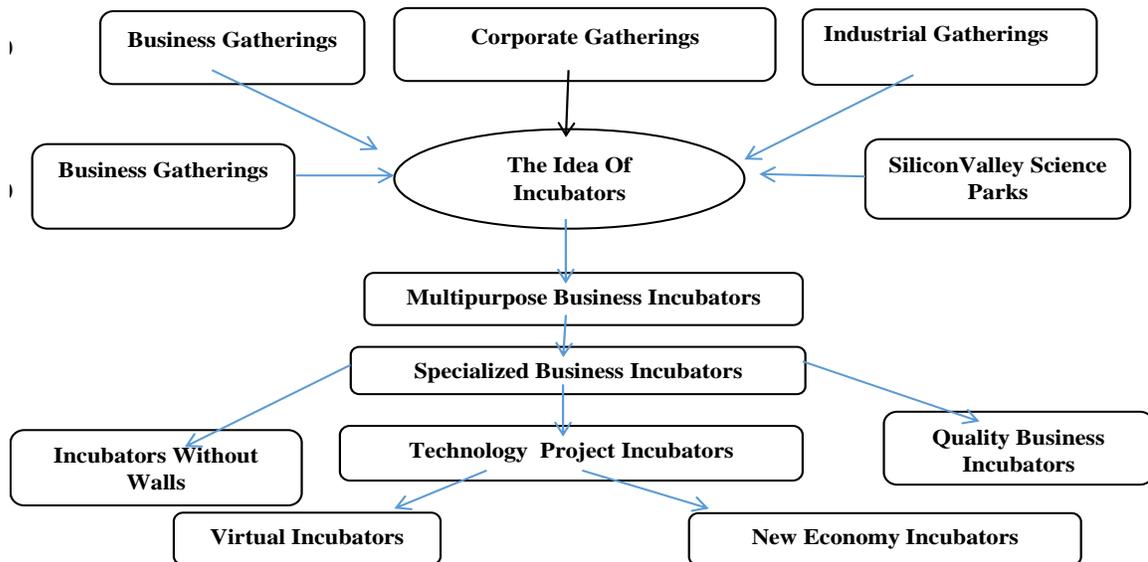
3.2 Types of incubators:

Since their appearance, the types of incubators and the types of services they provide have evolved, where different forms can be enumerated, so we find:

- By field of activity: such as industrial, technological, agricultural, petrochemical, media, comprehensive business incubators ... etc.
- By ownership: such as incubators of private institutions (often seeking to make profits), public incubators, incubators of mixed institutions (public and private), incubators of major institutions and bodies, university (academic) incubators, which are emanating from universities and higher institutes.
- The new trend today is towards the establishment of Internet incubators: a virtual incubator that provides its services to contractors via the Internet. It relates specifically to ICT sector projects, as well as open sky incubators (or without boundaries), which are like traditional incubators, but in addition to that, they provide services to It has non-resident contractors with the aim of increasing its resources and income.

In this context, the development of incubators and the services they provide can be illustrated according to the following figure:

Figure 1: The historical development of business incubators



Source: (Al-Tamimi W., 2007, p. 55)

3.3 The role of university incubators in creating start-ups

The university has emerged as an active party in the incubator sector in addition to its traditional functions related to education and scientific research, in order to strengthen its role and contribution in accompanying and supporting the creation of institutions, especially those emerging from them, for the purpose of valuing the results of its scientific research, technology transfer, and exploiting potential business opportunities.

The interest of scientific studies and decision-makers in all countries of the world has increased in this renewed role of the university, and new concepts such as the entrepreneurial university (the entrepreneurial university) are used, although this role in itself is not considered new and dates back to the end of the Second World War in the United States of America, where some universities used to provide offices Industrial communication in order to commercialize its intellectual property and obtain funding for its scientific research. With the early eighties, universities directed to establish university business incubators to stimulate the establishment of companies and provide advice and expertise to them in exchange for continuous employment of their students and graduates and to benefit from significant financial contributions from the local authorities. Later, the university directed its focus to technology incubators and parks in order to achieve more financial returns, marketing patents and intellectual property for scientific research and transforming technology into marketable products through the creation of emerging institutions thanks to the network of relationships it provides, which allows facilitating access to appropriate funding and the expertise it includes, in addition to creating greater awareness among researchers for the purpose of commercial exploitation of their work and strengthening the link between research and innovation and Entrepreneurship (Abetti& all, 2011, PP.16-20).

The emergence of university incubators allowed the development of the emerging enterprise sector for several factors:

- Employing and valuing the results of scientific research and innovations and linking them to the economic and social benefit of countries;
- Providing the appropriate climate and the necessary capabilities for technology transfer and commercialization;
- Providing the necessary accompaniment for the establishment and management of institutions in various fields (finance, marketing, accounting, law...etc.);
- Acting as a link between the economic sector, decision makers, research centers and all the requirements for the success of startups;
- Promoting the entrepreneurial culture and entrepreneurial spirit in the university community, which provides important career prospects and opportunities;
- Reducing: the costs of creating startups, the time period that they require, the risks and difficulties they face.

All of these factors allow strengthening the role of the university through university incubators and emerging institutions that have been developed to support transformation and economic and social development through what is called scientific or academic (enterprise) entrepreneurship. Considering that the main role of university business incubators is to enhance research results, especially at the doctoral level or the level of scientific laboratories, with the aim of providing the holders of creative ideas with knowledge and entrepreneurial skills to complement their technical and scientific skills, as well as accompanying them to obtain various aids such as funding for valuing the results of their research into marketable products in the best conditions and as soon as possible.

3.4 University incubators in Algeria: between reality and expectations

Although university incubators have appeared since the early eighties, in Algeria they did not appear until 2019 at the University of M'sila, and the experience has been expanded since 2020 as part of the policy to promote emerging institutions on the one hand and to develop the business incubator sector in general on the other hand .

The incubator sector in general in Algeria appeared in 2003 according to Executive Decree No. 03-78 of 24 Dhu al-Hijjah 1423 corresponding to February 25, 2003 under the name of nurseries (despite the essential difference between them regarding the timing of providing support and accompaniment), which was affiliated to the Ministry of Industry and Mines and was considered the incubator As a form of nurseries interested in the service sector, as well as linking workshops interested in small industries and crafts. As well as in institutions interested in research projects. Currently, the nurseries of the institutions are located in 13 states (Adrar, Oum El Bouaghi, Batna, Biskra, SidiBel Abbes, Annaba, Ouargla, Oran, El Bayadh, BordjBouArreridj, Khenchela, Mila and Ghardaia) (Directory of the Directorate General for Scientific Research and Technological Development, 2020, p.9) .

Then the technological sheds appeared, especially the SidiAbdallah shed, which was established in 2010, the Ouargla branch (2012) and Oran (2013), which was under the tutelage of the Ministry of Post, Telecommunications, Technologies and Digitization. In addition to some private and mixed initiatives, such as the incubator of the company (Ooredoo in 2014) through its tStart program and the incubator of the company (Djezzy in 2017), which was established in partnership with the National Polytechnic School of El Harrach; Others, such as Sylabs, Incubme, and Capcowork, that started to emerge.

It is noted that the incubator sector remained very limited in Algeria in terms of the number, the targeted sectors and the quality of services provided, mainly due to the confusion in its legal definition and the multiplicity of guardian ministries. In addition, the researcher asserts (Bouchour, 2017, p. 429) that it does not conform to the business models in force in the world. In order to cover these shortcomings, several decisions were issued, such as transferring the custody of the National Agency for the Advancement and Development of Technology Parks to the Ministry of Small Enterprises, Emerging Enterprises and the Knowledge Economy. Establishing a committee to award the "business incubators" mark (brand) to each legal structure that requests it in its capacity as a

specialist in incubating start-ups and innovative projects, which entitles it to obtain state aid and accompaniment. Where the Algerian legislator defines business incubators as “an organization that embraces new companies by providing a flexible legal and economic framework for their growth,” as it is defined as “a set of programs prepared by the government that includes training or other services aimed at helping small companies in the incubator to have a better chance of survival.” At its inception” (Executive Decree No. 20/254 of September 15, 2020).

In the same context, a focus was placed on the establishment of university business incubators as a structure for the common interests of scientific research (Official Gazette, No. 66, 2020, pp. 23-26), which defines university incubators as “a structure for receiving and supporting an innovative project directly related to research, which helps the project owner To achieve his idea and prove the possibility of its application in the long term and provide support to entrepreneurs in the field of training, consulting and financing, while accompanying them until the establishment of the institution” (Guide to the General Directorate of Scientific Research and Technological Development, 2020, p. 8).

Until the first semester of 2022, there are eight (8) active university incubators in each of the University of Blida 1, Guelma, El Oued, M'sila, Annaba, Ouargla, Boumerdes, and the National Polytechnic School of Constantine; In addition, thirty-six (36) others are under construction in order to circulate it to most of the universities in the country. This is in addition to the embodiment of some incubators in research centers such as the Center for the Development of Advanced Technologies (CDTA) and the incubator of the National Agency for the Evaluation of Research and Technological Development (Anvredet).

In order to examine the extent to which university incubators contribute to supporting and accompanying the creation of emerging institutions, in the following, we will try to study in the field the business incubator of the University of M'sila.

4. Applied study of the role of the business incubator of the University of M'sila in the development and promotion of start-ups

4.1 About the business incubator of the University of M'sila

The business incubator of the University of M'sila is the first university incubator in Algeria, as it was established by Ministerial Resolution No. 182 of May 27, 2019 under the tutelage of the National Agency for the Evaluation of the Results of Scientific Research and Technological Development ANVREDET, which operates under the supervision of the General Directorate for Research and Technological Development DGRSDT of the Ministry of Higher Education and Practical Research. On the “Business Incubator” tag in April 2021. It can also be considered the most active incubator in Algeria due to the size of the training programs offered, the number of incubated projects, as well as the number of “innovative project” marks obtained, which reached 20 labels during the first semester of 2021, in addition to the deposit of 44 files (up to the hexagonal). The first of the year 2022) to register patents at the INAPI level, from which I obtained 2 of them (related to the hybrid solar energy production project, as well as a prototype for compressed bricks)

and the rest are still in the stages of examination and study (the official website of the business incubator of the University of M'sila, 2022).

Currently, the incubator accompanies 52 projects, including 15 in the initial idea stage, 9 in the preparation and study stage, and 28 in this prototype stage, in addition to 5 existing institutions from which it previously graduated. The sectors of incubated activities vary between artificial intelligence projects, industry, commerce, pharmacy and medicine, health, communications, information technology, energy and renewable energies, cycling and the environment, as shown in the following table:

Table No. 1: Sectors of activity of projects incubated in the University of M'sila incubator until August 2202

N°	Fields
9	Artificial intelligence: smart glasses / smart cameras...
11	Smart applications and digital platforms: traditional industries/healthy nutrition/transportation and agriculture/virus prevention....
20	Remote control technology and mechanisms: smart meters manufacturing / 3D printer production....
8	Science and Biology: Development of polyethylene for use in the plastics industries/Development of a food supplement for stomach ulcers...
4	Renewable energies and the environment: a project to produce renewable energy from wind, solar energy and electromagnetic energy....
52	Total

Source: Al-Masila Incubator's official website

While the five graduating startups are: Sarl VisionIntek; Establishment of natural skin care products; An incubator for the environment and recycling; Food Industries Corporation 'Conviction'.

Like all university incubators, the business incubator of the University of M'Sila offers its services to university competencies from students and researchers in order to accompany them in valuing their creative ideas in the field of modern technology. In order to create emerging institutions that represent a starting point and an economic take-off in accordance with the contents of sustainable development under the slogan "You have the idea and we have support and accompaniment." For this purpose, Al-Masila Incubator has adopted several training programs, most notably the following:

- **Student Ambassador Program:** This program aims to select a group of students and researchers (incubator ambassadors) to carry out awareness-raising courses in the fields of innovation, invention, and entrepreneurship, setting up start-ups, business plans, ...etc. This program contributes to introducing the incubator, promoting it, and increasing its visibility in the university community and abroad.

- **Program discover:** directed to the benefit of students who have ambition and conviction to establish their start-up institutions, where the best ideas are selected by the Project Accreditation Committee in order to accept the incubation of their projects for a period not exceeding 24 months, from which they benefit from coaching in several areas: Establishment of institutions Business plan, market studies, customer targeting, website creation, software, smart applications,...etc. In addition to accompanying them to register their trademark, obtain patent certificates, innovative project mark...etc.

- **D-start Program:** This program is concerned with embodied projects that have entered or are about to enter the world of competition, where very focused training courses are allocated to them on some of the problems they face (problems in mining, in marketing, in some smart solutions, etc.). Through this program, the incubator provides free office space, technical support, training, mentorship and mentorship, as well as business planning and legal advice to startups. On the other hand, the owners of emerging institutions can involve the incubated students in their experiences and in their institutions, according to agreements concluded between them and the incubator management.

Since its establishment, Al-Masila Incubator has organized several training courses and workshops on several topics. For example, we mention: how to convert research projects into patents, preparing a business model and a detailed business plan for innovative projects, mechanisms for incubating projects of scientific research topics and registering them as patents, marketing for startups, legal advice for startups, practical workshops on programming languages and artificial intelligence programming. ..etc. This is in addition to organizing and participating in several national competitions to select the best innovative projects, such as the Student Solution Challenge organized in July 2021 to select the best projects and graduation notes for the bachelor's and master's levels in scientific disciplines and computer media. In an attempt to contribute to the response to the Covid-19 epidemic, the Oxygen Generator Industry project was launched by researchers and students of the University of M'sila Business Incubator in August 2021. The start-up, Vision In tek, has undertaken the installation of the generator components, with the possibility of introducing a new innovation into the project.

4.2 Study Methodology

This study was conducted during August 2021 on the community represented by all holders of incubated projects (52 projects) and those graduating (5 start-ups). The official website of the incubator and its manager on Facebook in order to motivate them to respond. That is why we decided to conduct direct, semi-directed interviews with project holders who accepted this through social media (calls via Messenger), where the interviews lasted about 30 minutes.

The interview aimed to measure the role of university business incubators in transforming creative ideas into embodied projects, and this is through three axes included in the interview guide as follows:

- The first axis:** personal information related to the respondents (gender, educational level and specialization);

-The second axis: describing the project and determining its degree of maturity;

- The third axis: evaluation of the support and accompaniment services provided by the university incubator, especially with regard to the following elements:

- The decision to establish the institution and evaluate the idea of the project
- The role of the incubator in acquiring the personal qualities, behaviors and skills of contractors
- The role of the incubator in training and creating and managing projects
- The role of the university incubator in supporting and accompaniment during the various stages of the establishment of the start-up institution

4.3 Presentation and discussion of the results of the field study

After collecting and summarizing the information, we present the results of the interview with the owners of innovative projects.

4.3.1 Presentation of the descriptive characteristics of the respondents

The data collected from the nine interviews regarding the personal characteristics of project holders are summarized in the following table:

Table No. 2: Descriptive characteristics of the respondents

Percentages %	Repetitions	Scientific Major	Percentages %	Repetitions		
33.33	3	Nature Sciences	33.33	3	Male	Gender
33.33	3	Technology	66.67	6	Female	
11.11	1	Economic Sciences	77.78	7	Master	AcademicLevel
11.11	1	Agriculture	22.22	2	Ph.D	
11.11	1	Urban Technologies Management				

Source: Prepared by researchers based on interview results

Despite the small size of the sample, it is characterized by diversity in terms of gender, scientific disciplines, as well as academic level, which gives a greater opportunity to expand the results of the interview to the rest of the community (the rest of the incubated project holders).

4.3.2 Presentation of the nature of the incubated projects

The incubated projects are diverse, all based on creative ideas that depend on modern technology and are very related to academic disciplines. The sample, according to the respondents' answers, included: a start-up institution specializing in electronics, machinery, advanced electricity and innovation, a smart urban city (digitalization of cities) dietary supplement as a treatment alternative for tobacco addicts, natural and healthy food product (beetroot and ginger paste), olive press waste recovery, system for equipping homes and administrations with remote controls to achieve well-being, solar inverter (Onduleursolaire) to convert solar energy into electrical energy, derivatives Organic cosmetics industry.

4.3.3 The degree of progress in the project implementation process

In this element, our sample also varied in terms of the stages of maturity reached by the projects, as shown in the following table:

Table No. 3: Distribution of projects by stage of development

Repetitions	phase
1	Initial idea
2	Business plan preparation
3	Prototype
2	Patent possession
1	Field implementation of the project
9	The Total

Source: Prepared by researchers based on interview results

We note that some of the respondents were able to embody their project on the ground and establish their start-up organization, which means that they left the incubator: It is related to Sarl vision intek, an institution specialized in the manufacture of electromechanical equipment and parts; Most of the rest are progressing a lot in their path as long as there are those who obtained a patent for their project and there are those who are in the stage of preparing the business plan. This diversity and progress in the path of establishing the startup allows us to obtain objective and credible answers when evaluating the various services provided and/or to be provided by the business incubator to the University of M'sila.

4.3.4 The importance of the services provided by the business incubator of the University of M'sila:

In this part of the interview, we tried to understand how the incubator affected the process of transforming creative ideas into innovative projects in order to later embody them in the form of emerging institutions. In our interviews, we focused on:

First: The role of the incubator and its impact on the decision of the student/researcher to establish his own institution in order to value his creative idea;

Second: The role of the incubator in acquiring the personal qualities, behaviors and entrepreneurial skills of the student/researcher;

Third: The role of the incubator in training and creating and managing projects;

Fourth: The role of the incubator in supporting and accompaniment during the various stages of the establishment of the start-up enterprise.

In general, these four elements are the total services that any business incubator is supposed to provide. Through our field study, we wanted to examine closely the extent to which the University of M'sila incubator provides all of these services on the one hand, and the extent of the satisfaction of project holders incubated with these services on the other hand.

All the answers came in the same context. All the respondents emphasized the importance of the incubator and the importance of the services provided, whether they received it or not after understanding very optimistic about the experiences of their colleagues and their success, which gives them complete confidence in the services provided by the incubator from the various training workshops, as well as through the network of relationships that they were able to It was woven through the incubator, where the testimonies of the interviewees came very positive regarding the incubator's contribution and providing a suitable environment for them in order to develop, improve and study their ideas through the various consultations and directions they obtained from the team formed under the actual and effective supervision of the director of the incubator as well as the Deanship of the University of M'sila.

The same is true with regard to acquiring personal qualities, behaviors and entrepreneurial skills, as the respondents agreed that the training courses and workshops were very useful for them, as it allowed them to interact with the business world effectively and gave them more confidence in their choices and the development of their entrepreneurial abilities, especially when seeing the success of their colleagues in the incubator in various national competitions and events. The scientific competition is modeled on the national competition "for every innovative project a patent" organized by the General Directorate of Scientific Research and Technological Development DGRSDT, where three projects out of four participation won the first ranks among dozens of proposed projects at the national level.

The interviewed project holders agreed on the importance of the training courses and workshops that they obtained or expected to obtain, as they dealt with the most important topics of

interest to the establishment and management of emerging institutions, especially with regard to modern methods and technologies in the field of information technology, legal matters such as social security contributions, public procurement law...etc. ., How to set up an organization, analysis of the business environment to identify opportunities and threats...etc.

Finally, the respondents insist that the incubator has helped them a lot in order to obtain a patent for their creative ideas or to work on it in the process of studying and examination at the INAPI level in addition to obtaining (or working on it) the mark of an innovative project and/or later the mark of a start-up enterprise which is Things that would have seemed very difficult and impossible if the initiative had taken place individually despite its importance, especially when it comes to innovative projects and emerging institutions, in addition to accompanying them in order to prepare the business plan and the completion of the prototype for their products, as well as helping them to weave a network of relationships and links with various social , economic partners and other contractors within the framework of the agreements and partnerships concluded by the University of M'sila incubator, in addition to participating in various local and national events in order to introduce their projects.

On the other hand, among the elements that did not live up to the degree that the respondents expected is the incubator's assistance in the field of financing, as most of them believed that the incubator would fully finance their projects, and this was not only the agreements concluded. ANVREDET funds the prototype designs for the product in addition to financing fees Registration for a patent is not sufficient, of course, which is why the incubator directs them to other support and accompaniment agencies, such as ANADE.

In addition, despite the fact that the University of M'sila's business incubator provides work spaces and open offices that provide various secretarial services, computer services and the Internet to project holders, these spaces are not always sufficient or conducive to the nature of the incubated projects' activity, as many of them need to work in university research laboratories. This calls for the business incubator of the University of M'sila to conclude cooperation agreements with various research laboratories, whether affiliated with universities or public and private research centers in order to facilitate research, studies and work of project holders to develop and embody their ideas.

Finally, a number of respondents indicated the need for the incubator to have trainers according to their scientific specializations in order to facilitate their activities and provide better guidance.

In general, the results of this field study, which were mostly positive evaluations of the services provided by the business incubator to the University of M'sila, and emphasizing their importance in engaging in entrepreneurship and the creation of emerging institutions in particular, while facilitating and overcoming the various obstacles that impede any entrepreneurial path pushes us to prove the validity of the previously proposed hypothesis and allows us to Emphasizing the essential role and positive impact of the business incubator of the University of M'sila on the establishment and success of the stages of development of emerging institutions by researchers carrying creative ideas and their contribution to valuing the results of scientific research in the form of marketable products.

5. CONCLUSION

We tried, through this paper, to review the importance of university incubators in Algeria as one of the ingredients for the success of startups in light of an ecosystem that carries several shortcomings and difficulties. In front of Algeria's trend towards adopting emerging institutions as an economic model aimed at achieving economic development by achieving economic diversification outside the hydrocarbon sector, university business incubators have emerged as a support and accompaniment device for the promotion and development of this sector.

In this context, we took the business incubator of the University of M'sila as a model of the first university incubator in Algeria, where our field study consisted of direct, semi-directed interviews with nine (9) incubated or incubated project holders, in order to examine and evaluate the level and quality of services provided to them and how it helped them progress On the path of resurrecting their startups.

Accordingly, the most important results reached through this study, as well as the recommendations that can be taken for the purpose of promoting university incubators to support and develop emerging institutions in Algeria, can be summarized as follows:

Results:

In light of the theoretical presentation and the field study, a set of results can be drawn regarding the role of university business incubators in supporting and accompanying the creation of start-ups as follows:

- University incubators have always been an essential link for transforming and valuing scientific research into start-ups;
- University incubators derive their importance due to their proximity to the university community and scientific research centers, as it will provide them with an opportunity to value their scientific research by providing comprehensive services such as those generally accepted in all business incubators, such as consultations, guidance, training, accompaniment...etc.;
- Through university incubators, the university can contribute to the development of the startup sector as a platform for research, development and innovation and a resource for creative ideas and entrepreneurial projects by providing formative frameworks in various fields, education and training in the field of entrepreneurship, as well as promoting entrepreneurship and entrepreneurial orientation among individuals, including professors researchers;
- Despite the spread of university incubators since the early eighties of the last century, in Algeria, only some of them were developed during the current three years only.
- The business incubator of the University of M'sila is considered the first, most active and dynamic university incubator in Algeria in terms of the number of incubated projects, the number of "innovative project" marks obtained, the number of files filed for patents, as well as the number of training courses offered, demonstrations and competitions participating in them;

- All project holders interviewed emphasize the positive impact and importance of the Messila incubator and the services it provides in promoting and developing their entrepreneurial path and embodying their start-ups

These results allow us to confirm our main hypothesis, which states the essential role of university business incubators in supporting and accompanying the creation of emerging institutions by university students and researchers, in addition to the Al-Masila incubator providing the majority of the services provided by any other business incubator.

Recommendations:

Based on the foregoing conclusions and observations, we can formulate and put forward a set of recommendations that can be considered as proposed goals to promote the role of university incubators and the development of the start-ups sector in Algeria. Therefore, several measures and measures should be taken, which we see below:

- The necessity for university incubators (including Al-Masila incubator) to conclude agreements and partnerships with national and international research laboratories, public and private, in order to facilitate and accelerate the research and development phase of the incubated projects;

- The necessity of concluding agreements with various national support and accompaniment agencies, as well as various funding bodies, with a special focus on ANVREDET in order to facilitate the process of financing the various stages of establishing incubated start-ups.

- In this context, it is necessary to search for modern forms of funding that respond to the specifics of each stage of the creation of a start-up institution, especially that it is made by students and researchers;

- Concluding twinning agreements between the University of M'sila incubator and other university incubators to benefit from their experience;

- Finally, it is necessary to go towards specialized university business incubators according to the economic sectors such as the pharmaceutical industry, mechanical industries, agriculture and food industries...etc. for better efficiency and effectiveness in various support and accompaniment activities.

6. Bibliography List :

1. **Abetti P ; Ben Rayana N ; Durgee J ; EL Abassi, M & HASAN I, (2011).**entrepreneuriat et innovation dans les pays du Maghreb. *Département d'État des États-Unis d'Amérique. rapport de l'Initiative de Partenariat du Moyen-Orient (MEPI).*
2. **Masmoudi M R, (2007).***Etude exploratoire des processus et des modèles d'incubation en entrepreneuriat : Cas des pépinières tunisiennes*, Thèse de Doctorat en Science de Gestion, Université du Sud Toulan-Var, Toulan.
3. www.paulgraham.com/growth.html ,visited 26/06/2020 at 09:57

4. Site of entrepreneurship on <https://io.hsoub.com/entrepreneurship/107360-%D8%A7%D9%84%D8%B9%D9%88%D8%A7%D9%85%D9%84-%D8%A7%D9%84%D8%AE%D9%85%D8%B3-%D9%84%D9%86%D8%AC%D8%A7%D8%AD-%D8%A3%D9%8A-%D8%B4%D8%B1%D9%83%D8%A9-%D9%86%D8%A7%D8%B4%D8%A6%D8%A9#>, visited 09/08/2021 at 09:57
5. أحمد بن قطف، (2008). أهمية حاضنات الأعمال التقنية في دعم المؤسسات الصغيرة المبدعة، رسالة ماجستير، تخصص: تسيير المؤسسات الصغيرة والمتوسطة، جامعة محمد بوضياف، المسيلة، الجزائر.
6. أولاد حيمودة عبد اللطيف، شنيبي عبد الرحيم، (2018). دور الهيئات المرافقة في تطوير المؤسسات الصغيرة والمتوسطة، مجلة إضافات اقتصادية، العدد 4، جامعة غرداية.
7. بخيتي علي وبوعونية سليمة، (2020). المؤسسات الناشئة، الصغيرة والمتوسطة في الجزائر واقع وتحديات، مجلة دراسات وابحاث، المجلد 12، العدد 4، جمعة زيان عاشور الخلفة، الجزائر.
8. بوالشعور شريفة، (2017). دور حاضنات الأعمال في دعم وتنمية المؤسسات الناشئة *Startups* _ دراسة حالة الجزائر، مجلة البشائر الاقتصادية، المجلد الرابع، العدد 2، جامعة بشار.
9. دليل المديرية العامة للبحث العلمي والتطوير التكنولوجي، (2020). مقدمة في مسار انشاء المؤسسة، وزارة التعليم العالي والبحث العلمي، الجزائر.
10. علي ابراهيم حسن، (2020). التسويق الرقمي للمؤسسات الناشئة، دار الأمل للطباعة والنشر والتوزيع، مصر.
11. المرسوم التنفيذي رقم 254/20 المؤرخ في 15 سبتمبر 2020 المتضمن إنشاء لجنة وطنية لمنح علامات مؤسسة ناشئة ومشروع مبتكر وحاضنات الأعمال وتحديد مهامها وتشكيلتها، الجريدة الرسمية، العدد 55.
12. المرسوم الوزاري المؤرخ في 20 صفر 1442 الموافق 8 أكتوبر 2020 المتضمن إنشاء المصالح المشتركة للبحث قرار وزاري مشترك مؤرخ في 8 أكتوبر 2020، الجريدة الرسمية، العدد 66.
13. الموقع الرسمي لحاضنة الأعمال لجامعة المسيلة (<https://www.univ-msila.dz/bicu/?fbclid=IwAR2pgDU6GPptq9BDpnc->RB8dYcD739DyktvBUzQOrzOSNG3s2xGeAMAFv-A). اطلع عليه يوم 2021/07/23.
14. نبيل جواد ، (2007). إدارة وتنمية المؤسسات الصغيرة والمتوسطة، الطبعة الأولى، دار مجد الجامعية للدراسات والنشر والتوزيع، بيروت.
15. وداد موسى التميمي، (2007). تأثير التغيير الاستراتيجي في عملية الاحتضان التقني، دراسة استطلاعية لعينة من منظمات القطاع الصناعي، ماجستير، تخصص: إدارة صناعية، جامعة بغداد، العراق.