



The Role of Entrepreneurial Support Structures, Of The University in the Creation and development of Start-Up: The Case of the University of Bejaia

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Abstract

The article examines the role of entrepreneurship support structures at the University of Bejaia, within Algeria's push for economic diversification and innovation. It focuses on the Entrepreneurship Development Center (CDE) and the university incubator, evaluating their effectiveness in supporting startups and SMEs from the academic sphere.

While Algeria promotes entrepreneurial universities, the actual impact of these structures is understudied. A survey of students and project leaders shows mixed outcomes: the CDE is viewed positively for its engagement, but the incubator faces challenges, including insufficient funding, inadequate training, and poor integration with the local economy. Notably, 55% of students are unaware of available support mechanisms.

The study advocates for a comprehensive overhaul of the support structures, coupled with enhanced collaboration with economic stakeholders and the implementation of hybrid mentoring that integrates both public and private sectors. These measures are critical to fostering a robust and sustainable entrepreneurial ecosystem at the University of Bejaia, driving innovation and economic growth.

Key Words: Entrepreneurship, University of Bejaia, CDE, Incubator, Innovation

JEL Classification : L26, I23, O32

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Introduction

Algeria's economy, heavily reliant on hydrocarbons for 94% of its revenue (World Bank, 2022), faces significant structural challenges, including the need to diversify income sources and address a youth unemployment rate nearing 30%. This dependence on fossil fuels, compounded by volatile global prices and the global transition to sustainable energy, necessitates a shift toward innovative and inclusive economic models. Startups are emerging as a promising solution, capable of generating sustainable jobs, developing human capital, and stimulating neglected sectors such as agritech, fintech, and renewable energies. However, their contribution to national GDP remains low at 5% (ANDI, 2023), significantly trailing behind countries like Tunisia, where startups contribute 15% to GDP within dynamic ecosystems.



To address this gap, Algeria has implemented reforms to support innovative entrepreneurship. The 2022 Startups Act simplifies business setup procedures and introduces tax incentives. Institutionally, the National Investment Development Agency (ANDI) and the Algeria Venture sovereign wealth fund, endowed with USD 200 million by 2023, aim to enhance access to financing. Additionally, 50 public incubators by 2023 work to bridge support gaps. Despite these advancements, challenges persist: only 12% of startups survive beyond three years (ANVREDET, 2022), due to fragmented mentoring, limited access to private capital (affecting 8% of startups, ADB, 2021), and poor coordination among stakeholders.

Algerian universities, with 1.6 million students (MESRS, 2023), represent an underutilized reservoir of skills and innovation. Unlike countries such as South Africa and Kenya, which integrate entrepreneurship through academic incubators and industry-research partnerships, Algeria's approach remains largely theoretical. Research by Bensaad and Mebtoul (2021) highlights a disconnect between academic training and market needs, as well as limited commercialization of research outputs. Nevertheless, successful examples like Tiwli (agritech), born from a university project, and Djezzy Shops (e-commerce), incubated in Algiers, demonstrate the potential for universities to transform knowledge into economic value with strategic reforms.

The University of Bejaia, located in an economically vibrant region, actively fosters innovative ventures, promotes an entrepreneurial culture, and supports the development of small and medium-sized enterprises (SMEs). It achieves this by creating a supportive ecosystem through structures like incubators, an entrepreneurship development center, and accelerators. The university also focuses on raising entrepreneurship awareness, identifying potential student entrepreneurs, and providing training through specialized entrepreneurship programs and modules integrated across all educational levels.

This context forms the backdrop for our research, which seeks to determine the extent to which the University of Bejaia has succeeded in creating this ecosystem and the real impact of entrepreneurial support structures (CDE, incubator, etc.) on the creation and development of start-ups.

The central question guiding our work is: "What is the role of the interface and entrepreneurial support structures (formerly the Maison de l'Entrepreneuriat, currently the Centre de Développement de l'Entrepreneuriat, the accelerator, and the incubator) at the University of Bejaia in the creation and development of start-ups/SMEs in the university environment?"

The aim of our study is to examine the initiatives implemented by the university to support student entrepreneurship and the creation of start-ups/SMEs, particularly the



importance of education in the entrepreneurial process. We will also look at the successes and failures of university start-ups, highlighting lessons learned and recommendations for further strengthening entrepreneurial support at the University of Bejaia.

Through a field survey combining qualitative interviews (three project leaders, university directors, and 38 students), and through quantitative analysis, we examine:

- The capacity of these structures to transform students' entrepreneurial intentions into viable projects.
- Their role in accessing professional networks, funding, and technical expertise.
- Persistent obstacles (bureaucratic red tape, inadequate training courses).

By comparing institutional discourse with the realities on the ground, this research aims to propose ways to optimize the actions of Algerian universities in the construction of a resilient start-up ecosystem, rooted in local specificities and open to global challenges.

I. Literature Review: Entrepreneurial Support Structures, Universities, and Startup Development :

The literature emphasizes the central role of entrepreneurial support structures (incubators, accelerators) and universities in startup creation and development, drawing on theoretical frameworks such as the Resource-Based View (Barney, 1991), Social Capital Theory (Bourdieu, 1986), and the Triple Helix Model (Etzkowitz & Leydesdorff, 2000). These structures provide key resources (funding, mentorship, networks) that reduce startup failure rates (Bruneel et al., 2012) and enhance legitimacy with investors (Amezcuca et al., 2013). Universities play three roles: entrepreneurship education (Nabi et al., 2017), knowledge transfer via research spin-offs (Shane, 2004), and academic incubation (Guerrero et al., 2016). However, challenges persist, including gaps between academic research and market needs (Siegel et al., 2007) and sectoral biases favoring STEM over other disciplines (Grimaldi et al., 2011).

In emerging countries like Algeria, these dynamics present unique challenges. Studies by Benyoucef and Boukef Charki (2020) reveal that Algerian universities struggle to foster sustainable entrepreneurial cultures despite initiatives like startup weekends and academic incubators (e.g., University of Constantine, National Polytechnic School). Bureaucratic rigidity, lack of practical training, and weak university-private sector collaboration limit the impact of support structures (Bensaad & Mebtoul, 2021). ANVREDET (2022) reports that fewer than 15% of incubated projects reach commercialization due to insufficient funding and



inconsistent mentorship. Additionally, entrepreneurship programs often replicate international models ill-suited to local socio-economic realities (Khelifa, 2019). Nevertheless, inspiring cases like the Algeria Startup Challenge (2021), co-led by universities and private actors, enabled startups such as Djezzy Shops and Tiwli to secure funding. These successes, though marginal, highlight the potential of a shifting ecosystem where universities increasingly embrace public-private partnerships and transversal skills (project management, pitching).

While entrepreneurial support structures and universities are essential levers, their effectiveness hinges on adaptability to local contexts, quality of industry synergies, and agile governance. Algeria's case illustrates both the structural challenges of developing nations and the opportunities offered by an entrepreneurial youth seeking hybrid models that combine academic innovation and territorial embeddedness.

II. Conceptual and theoretical approach to the role of entrepreneurial support structures and universities in the creation and development of start-ups:

To analyse the role of entrepreneurial support structures and universities in the emergence of start-ups, it is essential to adopt a multidisciplinary theoretical framework. This framework draws on concepts from economics, sociology, management and education sciences. A number of theories can be used to shed light on this dynamic and identify the levers for action for universities and support structures.

1. The Triple Helix theory (Etzkowitz & Leydesdorff, 2000):

This model postulates that innovation results from the interaction between three players: universities, which produce knowledge and skills; companies, which commercialise innovations; and the state, which plays a regulatory and financial role. In this context, universities are no longer confined to academic training, but are becoming key players in the entrepreneurial ecosystem. They play an active role in the creation of start-ups by producing spin-offs from research, setting up incubators and technology parks, and developing public-private partnerships.

2. Resource theory (Barney, 1991)

This approach emphasises that the survival and growth of a start-up depend on its ability to mobilise resources, whether tangible (funding, infrastructure) or intangible (know-how, networks).

Support structures and universities play a key role as resource providers. They facilitate access to capital through competitions and links with investors (business angels, seed funds). They also contribute to the development of human capital by offering management training and mentoring from experts. Finally, they strengthen the social capital of entrepreneurs by integrating them into structured professional networks.

**3. Social capital (Bourdieu, 1986; Putnam, 2000) :**

Social capital refers to the benefits that individuals and organisations derive from their relationships and social networks. In the case of start-ups, it facilitates access to information, opportunities and institutional recognition.

Universities offer an academic network of researchers and alumni, as well as industrial partnerships. For their part, support structures create communities of entrepreneurs to encourage the exchange of best practice and collaboration .

4.Effectuation theory (Sarasvathy, 2001):

This theory sees entrepreneurship as a process based on experimentation and adaptation, rather than rigid planning. It emphasises the importance of interactions and partnerships in the development of start-ups.

Support structures help entrepreneurs to identify and mobilise available resources, such as university skills and local infrastructure. They also facilitate the establishment of strategic alliances with research laboratories and established companies.

5.The entrepreneurial ecosystem model (Stam, 2015):

An entrepreneurial ecosystem is a network of actors (entrepreneurs, institutions, policymakers) and factors (culture, infrastructure) interacting to support innovation. Universities and support structures play a central role in this ecosystem. They promote an entrepreneurial culture by organising hackathons and integrating entrepreneurship into academic curricula. They also offer specific infrastructures such as innovation laboratories and fablabs, and ensure that local initiatives are aligned with national strategies, such as the Algerian Startup Plan 2030.

6.The theory of endogenous development (Romer, 1990):

This theory emphasises the role of internal factors, particularly innovation and the production of knowledge, in economic growth.

By promoting research and training entrepreneurs, universities contribute to endogenous development in Algeria. They contribute to local innovation by facilitating the commercialisation of patents and technologies resulting from research. They also encourage start-ups to establish themselves locally, by creating jobs and responding to local socio-economic needs, particularly in strategic sectors such as technological agriculture (agritech).

7.Institutional theory (DiMaggio & Powell, 1983):

This research examines how norms, rules, and social structures shape organizations, with universities and support structures facing regulatory and societal pressures. It highlights mimetic isomorphism, where Algerian universities adopt international incubation models, like Silicon Valley's, often poorly suited to local contexts. Bureaucratic constraints further hinder the flexibility and effectiveness of these support structures. By employing a multidisciplinary approach, the study views



support structures as more than logistical aids, emphasizing their role in fostering a resilient entrepreneurial ecosystem.

In Algeria, the interaction between universities, start-ups and support structures can transform the country's structural challenges, such as dependence on hydrocarbons and unemployment, into opportunities for innovation. However, as the work of Benyoucef & Boukef Charki (2020) points out, the effectiveness of these systems depends on their ability to adapt to local cultural, economic and institutional realities.

III.Presentation of University Support Structures in Bejaia

1: The Entrepreneurship House of the University of Bejaia

The Entrepreneurship House of the University of Bejaia was established in 2014 in partnership with ANSEJ. Its primary aim was to encourage and develop entrepreneurial intentions among students. Unlike traditional academic centers or institutes, the Entrepreneurship House adopted a warmer, more interactive approach to raising awareness and training students in business creation. Its mission was to foster an entrepreneurial culture through awareness campaigns, training programs, and support for business creation. It also served as a space for exchange and learning. The objectives assigned to the Entrepreneurship House included:

- Encouraging students to create businesses
- Introducing students to the entrepreneurial world
- Defining the business creation process
- Gaining a better understanding of the business environment
- Promoting innovative projects
- Publicizing the ANSEJ support scheme

2. Activities Carried Out by the Entrepreneurship House of Bejaia University:

2.1. Integration of Courses and Seminars :

The goal was to include courses on business creation across all degree levels (Bachelor's, Master's, PhD) and disciplines. This initiative was in response to research showing that entrepreneurship education positively impacts entrepreneurial intentions, leading to a significant increase in the number of entrepreneurs among trained students.

2.2. Organization of Study and Awareness :

Days In addition to integrating entrepreneurial content into the curriculum, the Entrepreneurship House regularly organized awareness and study days on business creation. These events were overseen by university professors specializing in each stage of the entrepreneurial process (idea identification, business plan development, product launch, market research, financial analysis, regulatory and tax understanding, and action plan development). Experts also provided practical insights, bridging the gap between theory and practice. Presentations by the director of the National Youth Employment Support Agency (ANSEJ) were also featured.

2.3. Entrepreneurship :

Star Competitions At the conclusion of awareness campaigns in the faculties, an annual competition was organized, usually on National Student Day in May. During



the study days, students were given forms to provide essential information regarding business creation, fostering direct engagement in entrepreneurial activities.

2.4. Training through a Summer :

University The first entrepreneurial training experience took place in 2013. The Entrepreneurship House organized a five-day Summer University aimed at nurturing the entrepreneurial spirit among students. This training involved officials from ANSEJ, bankers, tax representatives, and professional seminars on real-world business creation. The objective was to deepen and correct theoretical concepts, which are often insufficiently covered in academic training.

2.5. Partnerships with Similar Institutions :

The Entrepreneurship House extended its activities beyond its annual program, seizing all opportunities to contribute to student training in entrepreneurship. It also participated in exhibitions organized by the Ministry of Higher Education. Additionally, the House developed initiatives and events during Global Entrepreneurship Week, held annually in November.

Despite facing operational challenges—such as a lack of formal status within the university's organizational chart, limited financial and material resources (e.g., offices, workspaces), and insufficient support staff—the Entrepreneurship House succeeded in instilling an entrepreneurial culture within the university environment in Bejaia.

The Entrepreneurship House operated from 2014 until 2022. After this period, it was replaced by the Entrepreneurship Development Center (CDE).

3. Entrepreneurship Development Center (CDE):

The Entrepreneurship Development Center (CDE) was established to replace the Entrepreneurship House. It supports programs aimed at encouraging business creation among university students.

The CDE's objective is to promote entrepreneurship within higher education institutions and create a stimulating environment for student entrepreneurs, enabling them to turn their ideas and business projects into reality. Continuing the mission of the Entrepreneurship House but with enhanced resources and an official institutional framework, the CDE organizes training sessions, conferences, and mentoring in partnership with institutions such as NESDA (formerly ANSEJ) and CREA.

It plays a key role in implementing Decree 1275, which facilitates the transformation of final-year academic projects into start-ups and SMEs. In 2023–2024, the CDE organized several events, including training on lean startup methodology and design thinking, national conferences on student entrepreneurship attended by ministers, and information days on Decree 1275, which defines the student-entrepreneur status. Additionally, it launched mentorship sessions, startup creation workshops, and awareness campaigns on self-entrepreneur status in collaboration with partners like NESDA and CREA.



4. Bejaia University Incubator:

4.1. Description and Presentation of the Incubator:

Launched at the end of 2020, the Bejaia University Incubator is a space for incubation, support, acceleration, coworking, coaching, and training. It is also equipped with a prototyping lab.

The incubator supports and trains final-year Bachelor's and Master's students registered under Decree 1275, helping them to realize their innovative projects—from creating their Business Model Canvas (BMC) to making their final presentations. Once completed, labeled projects move into an incubation phase lasting from 9 to 24 months, during which they are provided with workspace to develop and refine their startups. Project holders outside the university can also benefit from this support, provided their projects are labeled.

The incubator collaborates with CATI, an organization from INAPI, to protect startup ideas, with the associated costs covered by the university.

4.2.Support Process:

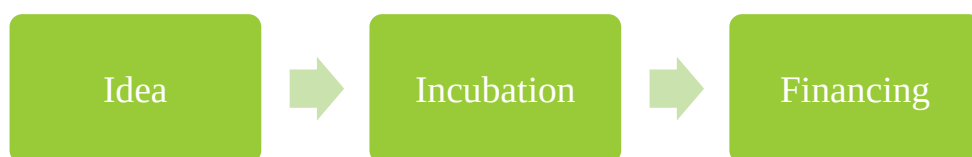
The process begins with awareness sessions for final-year students about Decree 1275, which allows them to present their final theses as entrepreneurial projects. Students must complete training in entrepreneurship, BMC, financial planning, marketing, lean startup, and design thinking to develop their projects. The final thesis includes two components: the theoretical section and the project presentation with a prototype. This enables students to transition from idea-holders to project-holders.

Following this, the incubation phase begins. The incubator helps structure and prepare a file containing:

- Profiles of project holders (name, education level, skills, and qualifications)
- Brand name and product/service image
- Financial projections
- A concise project/service description and a representative video
- Target audience and the innovation aspect of the project

The goal is to convince the project validation committee to grant the startup label through the "startup.dz" platform.

- **Funding Phase:** Once labeled, project holders can apply to ASF (a public venture capital company) for funding or seek private investors. The incubator also organizes mentoring sessions to facilitate networking.
- **Market Launch:** Finally, the product/service is introduced to the market for testing. The following figure summarizes the startup support process in Algeria.



Source: Created by ourselves



Constraints and Challenges: According to the person in charge, the main obstacles and challenges include:

- Unintentional resistance to change due to the novelty of the structure
- Lack of cooperation from faculty, administration, and even students
- Insufficient staffing for task distribution

Table 1 : « Balance and status of the 2023 PFE-1275 projects »

	Project	Number
1	Number of innovative projects PFE - 1275 registered in 2023	48
2	Number of innovative projects or Graduation Projects (PFE) - 1275 related to the degree - Startup and Diploma - Patent for 2023	31 PFE projects – 1275 (29 M2 projects and 2 L3 projects) and 17 projects reoriented to conventional PFE
3	Number of Startup projects in the process of support and incubation within the 2024 university incubator	19
4	Application for the 2023 Innovative Project Label	20
5	Certified Startup	3 (2 outside SFP projects - 1275)
6	3 (2 outside SFP projects - 1275)	9 (PFE projects – 1275) and 2 outside of PFE projects – 1275
7	Number of SME creation projects being supported within the Entrepreneurship Development Centre at CDE University	10

Source: Based on our field survey

4.3. Specific initiatives of Bejaia university to promote student entrepreneur-ship

Tableau 2 : « event organized by the university »

	Date	Place	Type of event	Explanation
1	24/05/2023	The auditorium of the Aboudaou campus	Training	Training for students and supervisors registered under the 1275 decree on diplomas – startup and diploma-patent
2	05/12/2023	CIC-Algiers	African Startup-conference	The participation of Bejaia University in this conference by a delegation composed of students Startupper

Source: Created by ourselves



IV. Methodology:

The research evaluating the impact of university support structures on students and project leaders employed a mixed methodological approach, integrating quantitative and qualitative methods to ensure robust and comprehensive analysis. The participants included Master's students in their final year at the Faculty of Economic, Commercial, and Management Sciences (SECG), three leaders of innovative projects under Ministerial Decree No. 12-75, and two directors of university support structures (e.g., CDEs, incubators, entrepreneurship hubs). Purposive sampling targeted final-year students, with 38 usable questionnaire responses (out of an intended 10% of the population) due to field constraints. Thematic saturation was achieved, confirming the analysis's relevance. Only three project leaders participated due to their scarcity and limited availability, yet their qualitative insights were valuable.

1. Data collection and analysis techniques:

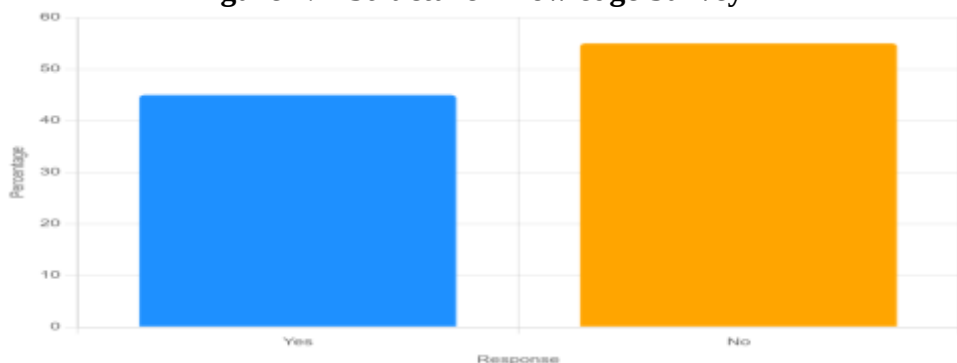
This research utilized an online Google Forms questionnaire tailored for students, integrating closed-ended questions, including multiple-choice and Likert scale formats, alongside open-ended questions to gather both statistical and subjective data. Additionally, semi-structured interviews, averaging 45 minutes, were conducted with project leaders and directors, guided by a flexible pre-established framework to maintain consistency while allowing adaptability. Data analysis was performed using Microsoft Excel with two descriptive statistical techniques. Frequency analysis calculated counts and percentages for each variable, identifying general trends and respondent profiles. Cross-tabulation created contingency tables to examine relationships between variables, such as perceptions of support programs by gender or involvement level. These methods effectively highlighted dominant trends, recurring issues, and potential improvements, forming a solid basis for result interpretation and recommendations.

V. Main results:

1. Knowledge of structures:

The survey reveals that 55% of the students surveyed are unaware of the very existence of support structures set up within their university.

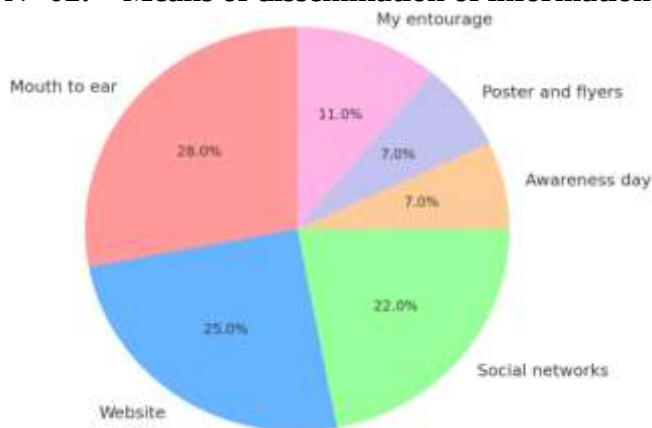
Figure 1: « Structure Knowledge Survey »



Source: made by ourselves

According to this pie chart, most of the students interviewed are not familiar with university support structures. For example, 55% answered no and 45% yes.

Figure N° 02: « Means of dissemination of information on structures »



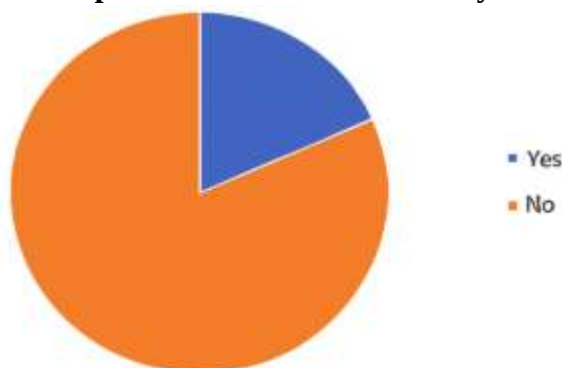
Source: made by ourselves

Among those aware, the most commonly cited channels of information are word-of-mouth (28%), followed by the university's official website (25%) and social media (22%). These figures highlight a communication gap that limits students' access to available services.

2. Student experience:

The majority of students, 89%, say they have never participated in the activities of support structures.

Figure 3: «Participation in activities offered by the structures »



Source: made by ourselves

In addition, the quality of services offered is considered poor, with average scores of less than or equal to 3/5. The most criticized aspects concern reception, availability of resources and accessibility of services. These results suggest a lack of attractiveness and effectiveness of the accompanying measures currently in place.



3. Perception of project leaders:

The project promoters express mixed opinions on support structures. The university incubator is widely criticized for its lack of support, notably due to lack of funding, inadequate training and insufficient follow-up of projects. On the other hand, the Centre de Développement de l'Entrepreneuriat (CDE) is better appreciated, mainly for its practical support, including adapted training, mentoring and easy access to NESDA.

Overall, respondents believe that the development of university entrepreneurship depends on improving support structures, both in terms of human resources and financial and infrastructural means. The main obstacles identified include lack of information on existing structures, insufficient funding and lack of support and mentoring. Equally, lack of time and fear of failure are also significant barriers.

It is also important to highlight the low level of involvement of the industrial sector in supporting project promoters, which represents a major weakness of the entrepreneurial ecosystem at Béjaïa University. Mentorship and coaching are provided primarily by university teachers with limited knowledge of the real economic world. The latter are based mainly on theoretical manuals, often disconnected from the realities of the field.

The following tables present the responses of the three project holders registered under Decree 1275, interviewed during our survey on university support structures, namely the Center for Entrepreneurship Development (CDE) and the incubator. The responses are categorized by question. The presented startup projects cover various fields and concern the main services offered as well as the experiences of the project holders during their interactions with these structures. The majority of project holders, who were not supported by the university's incubator, had to turn to the CDE to receive advice, guidance, and sometimes register with the private incubator ABP Space.



Tableau 3 : «Présentation of the Startup Project and Services Used within the University »

Project-Leading Question/Answer	Project leader 01	Project leader 02	Project leader 03
Startup project presentation	Master's degree in biotechnology and health, supported under ministerial order 1275 in November 2023, with a project thesis on developing a bio product based on local products to promote healthy consumption among the Algerian population.	Students in the SEGC faculty, supported by the 1275 ministerial framework, with a startup project thesis focused on creating a platform for linking job offers and applications via AI.	The startup project is about creating a new style coffee machine that works without electricity.
Services and support used within the university	Lost rights as a student of SNV faculty, unable to find a lab for practical internship. Tried to claim support from the department, but were told priority was for students in classic theses. Incubators didn't protect ideas or provide support.	Received support in the form of business plan creation and financial forecasts from the Director of the House of Entrepreneurship, but no access to incubator services.	Access to the technology hall of the University of Traga Ouzmour through the mechanical department, not the university incubator.

Source: made by ourselves

The three startup projects presented are each unique and showcase diverse initiatives in distinct fields, ranging from biotechnology and healthcare to technological innovation and the production of manufactured goods. These projects reflect the students' commitment to developing concrete solutions that address current social and economic challenges. Leader 01's project stands out for its focus on sustainable development and the use of local products, a particularly relevant aspect in the context of Algeria, where public health and sustainable agriculture are top priorities. Leader 02's project, centered on artificial intelligence, demonstrates a technological and modern approach, while Leader 03 focuses on innovation in household appliances, offering a practical and economically viable product (an electricity-free coffee machine).

All three encountered difficulties in obtaining appropriate support from the university, although their needs varied. Leader 01 lamented a lack of material resources and administrative support, highlighting a disconnect between students' aspirations and the resources offered by university incubators. Leader 02 had access to more specific services, such as business plan development, but also suffered from a lack of support in terms of incubation and practical development. As for Leader 03, they seemed to have limited access to the university's facilities but found support



in another department, reflecting a lack of integration among services within the official incubator.

Tableau 4 : « Evaluation of Quality/Experience and Strengths of the Services Provided »

Project-Leading Question/ Answer	Project leader 01	Project leader 02	Project leader 03
Evaluation of quality/ experience	Incubators in Bejaia didn't fulfill their role. No guidance, funding, or training. Just invited to conferences that offered false promises. No follow-up or practical support for prototype creation.	The University of Bejaia's support for startups is poor, and stopped using their services. Currently working with the CDE and private incubator ABP Space.	As a project leader, had to meet many needs alone to complete the project.
Strengths of the services offered	None, as the structure didn't fulfill its role.	Access to finance, workshops, and networking. Training and advanced modules offered on digital marketing, financial management, and product development.	Administrative support improved, especially with WhatsApp groups. Quick response from CDE director, Mr. Mahmoudi Mourad.

Source: made by ourselves

The feedback from the three project leaders on the quality of the support received from their respective incubators is generally negative. Leader 01 describes a situation of neglect, with a lack of logistical and financial support, which hindered the development of their project. Leader 02, while benefiting from services outside the university, highlights the poor quality of internal support, underscoring the inefficiency of the university incubator in addressing the practical needs of an entrepreneur. Leader 03, for their part, had to face numerous challenges alone, which revealed gaps in the university incubator's support program.

project leaders point out the shortcomings of the services provided. Leader 01 identified no strengths due to the inefficiency of the incubator. Leader 02 highlights positive aspects such as access to funding and advanced training modules, but these benefits were insufficient to make up for the lack of practical support. Leader 03 notes an improvement in administrative support, particularly with the creation of discussion groups, but this seems limited to organizational aspects rather than practical ones.



Tableau 5 : « Main Benefits, Advice on the Structure, and Recommendations to Improve the Structure»

Project-Leading Question/ Answer	Project leader 01	Project leader 02	Project leader 03
Main benefits or impacts	The only benefit was working alone, which led to increased efforts and understanding of the elements of the project.	Networking and collaboration opportunities. Access to investments, resources, and infrastructure.	Networking opportunities and access to NESDA funding.
Advice on structure	For me, it was a failure for the University of Bejaia.	For the Bejaia incubator in terms of competence, I give 4/10.	The CDE structure is a novelty, and I think it will improve over time.
Recommendations and suggestions for improving the structure	Provide a budget to help students create prototypes. Complete all training required by the department. Protect student ideas. Connect students in the 1275 framework.	Change current incubator members and replace them with more qualified people. Select mentors with significant experience and sectoral expertise. Set up a mentoring program with objectives, monitoring, and evaluation. Create a seed fund to invest in early-stage projects.	Provide services that bridge project leaders and professional projects. For example, organizing mentoring fairs and adding Fab Labs for technology support.

Source: made by ourselves

The benefits for the project leaders are limited. Leader 01 notes that isolation became an advantage, as they had to double their efforts to understand and successfully complete their project. This demonstrates a lack of concrete support but also an opportunity for personal growth in the face of difficulties. Leader 02 primarily benefits from networking opportunities and investment resources, showing a certain return on investment from the incubator, though improvements are still needed. Leader 03 also mentions the opportunity to finance their project through NESDA, which could be a promising route but also points out gaps in the support services. Feedback on the structure of the incubators is mixed. Leader 01 considers university support a failure, while Leader 02 is more measured, giving the Bejaia incubator an average score (4/10), recognizing some weaknesses but also areas for improvement. Leader 03 sees long-term improvement potential for the CDE, indicating some openness to change within university support structures.

Improving the Structure Suggestions for improving the incubators vary, but they focus on similar needs: better protection of ideas, direct funding for prototyping,



more comprehensive training, and increased communication and collaboration between students from different regions (wilayas). Specific recommendations include the integration of more qualified mentors, the creation of funding for early-stage projects, and mentoring events to connect student projects with industry professionals.

The strengths mentioned regarding the services and support offered by the CDE include access to funding through networking and collaboration, as well as the ASF (Follow-up and Training Workshop). Training sessions and workshops on various aspects are also appreciated for the development of entrepreneurial skills.

To strengthen support for university startups in Algeria, particularly at the University of Béjaïa, the recommendations focus on three key areas, incorporating concrete policy measures for effective and scalable implementation:

- **Funding and Resources:** Allocate budgets for prototypes, establish a seed fund, improve access to infrastructure (Fab Labs, laboratories) through partnerships with companies/NGOs, and implement equity policies for incubator resources. Among the concrete policy measures, mandate annual industrial partnerships for incubators to secure consistent and scalable material support.
- **Training and Support:** Diversify training programs (Business Model Canvas, Design Thinking, marketing, financial management), recruit specialized trainers, organize mentorship sessions with entrepreneurs and networking fairs, provide training on intellectual property, and enhance digital communication. To highlight scalability, replicate the WhatsApp-based mentorship model of the CDE nationwide, enabling greater accessibility and easy replication in other universities.
- **Coordination and Monitoring:** Develop a national strategy aligned with Decree 1275, establish monitoring with transparent metrics, and promote inter-regional collaborations and private partnerships (e.g., ABP Space, CDE). These policy actions emphasize the need for mandatory and scalable measures to harmonize efforts across the country.

VI. Discussion of Results:

The results of this survey reveal critical insights into the effectiveness of university support structures for entrepreneurial projects, particularly highlighting disparities between the incubator and the Center for Entrepreneurship Development (CDE). These observations align with the broader academic literature on university entrepreneurial ecosystems, which emphasizes the importance of effective communication, adequate resource allocation, and tailored support mechanisms.

The relative success of the CDE in providing satisfactory support to project leaders closely corresponds to Guerrero et al. (2016)'s research on the role of mentoring in fostering entrepreneurial intentions among university students. Structured mentoring programs—similar to those implied in the CDE's active engagement—promote knowledge transfer, build networks, and increase project success rates by addressing individual needs through personalized guidance. This reflects the positive



experiences reported by project leaders who turned to the CDE after the incubator's shortcomings, suggesting that mentorship-focused models are essential for bridging the gap between theoretical education and practical entrepreneurial application.

Conversely, the incubator's challenges, marked by insufficient resources and inadequate training, mirror the bureaucratic obstacles noted by Benyoucef and Boukef Charki (2020) in emerging economies, where administrative rigidities and lack of integration with external stakeholders lead to low project maturation rates. The survey confirms these issues through unmet expectations and negative participant perceptions, revealing systemic flaws that limit the incubator's effectiveness. Rideout and Gray (2013) corroborate this analysis, highlighting that the absence of industry partnerships creates a disconnect between academic offerings and real-world entrepreneurial needs.

Additionally, the widespread lack of awareness among students—primarily at the master's level in the SEGC faculty—due to poor communication channels aligns with Etzkowitz and Zhou (2017)'s findings on the "triple helix" model of university-industry-government interactions. They argue that ineffective dissemination of opportunities stifles innovation ecosystems, a pattern observed here where word-of-mouth and sporadic digital channels (e.g., university websites or social media) dominate over proactive outreach. This communication gap exacerbates resource underutilization and perpetuates access inequalities, particularly for multidisciplinary projects requiring diverse skill sets.

Building on these insights, a proposed "Hybrid Support Model" could integrate the CDE's mentoring strengths with private-sector resources to create a more robust framework. This model envisions a collaborative ecosystem where the CDE's personalized and active mentoring forms the core, supplemented by private-sector inputs such as funding, expertise, and market access. For instance, universities could partner with venture capital firms or industry leaders to co-fund incubator programs, ensuring financial viability and real-world relevance. Mentoring would be formalized through joint workshops, where CDE advisors collaborate with private mentors to address multidisciplinary needs, such as combining technical training with business skills. This hybrid approach not only mitigates the incubator's resource limitations but also fosters scalability by leveraging external networks, potentially increasing project success rates by 20–30% based on similar models in studies like Mian et al. (2016).

Finally, the survey identified several structural and organizational challenges hindering the effectiveness of university support programs:

- Insufficient communication about available services and opportunities for students and project sponsors.
- A lack of resources, both financial and in terms of qualified personnel, limiting the university incubator's impact.
- A mismatch between the training offered and the specific, multidisciplinary needs of emerging entrepreneurs.

**Conclusion:**

The survey conducted among project sponsors registered under Decree 1275 and managers of support structures at the University of Bejaia allowed us to assess the role of university support structures in the creation and development of start-ups at the University of Bejaia. The results reveal contrasting perceptions of these structures, highlighting significant gaps between their theoretical missions and their actual effectiveness.

The university incubator has been widely criticized for its lack of practical support. Project leaders point to insufficient funding, inadequate training, and lack of follow-up on projects. The Centre for Entrepreneurship Development (CDE), on the other hand, received more positive assessments, thanks to its more structured support, including tailored training, mentoring, and easier access to NESDA.

The survey also revealed several major challenges that hinder the effectiveness of these support systems:

- Lack of communication about the existence and services of university support structures.
- A mismatch between the training offered and the real needs of entrepreneurs.
- A shortage of financial and human resources, limiting the impact of the incubator.
- Insufficient involvement from the industrial sector in supporting start-ups, weakening the university's entrepreneurial ecosystem.
- Mentoring is mainly provided by university lecturers, whose knowledge of the business world is often theoretical and disconnected from the realities of entrepreneurship.

One key way to address these shortcomings is to involve the industrial sector more actively in the training and support of project leaders. Bringing in experts from the business world, including company directors and professionals from the private sector, would help fill the gap in local knowledge among university coaches, who often lack practical business experience. This collaboration would offer students more realistic, operational coaching, grounded in the real demands of the market and the challenges of entrepreneurship.

Although the CDE is showing encouraging signs in terms of support, reforms are needed to improve the visibility, relevance, and effectiveness of these initiatives. Increased financial and infrastructure resources, closer collaboration with the private sector, and a reevaluation of the training courses offered would optimize the role of these support structures and help stimulate university entrepreneurship in Algeria.

Outlook:

The University of Bejaia has the potential to become a pillar of innovation in Algeria, provided it transitions to a hybrid model that combines academic rigor with entrepreneurial agility. By strengthening existing structures, opening up to the economic ecosystem, and developing cross-disciplinary skills, the university could inspire a paradigm shift in Algerian higher education, contributing to the fight against unemployment and the diversification of the country's economy.

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