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## University support structures for Entrepreneurship in Algeria: the scope and the limits

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### Abstract:

This study aims to examine support structures for entrepreneurship set up by university, what they have achieved and the obstacles encountered in carrying out their missions. These structures are: incubators, entrepreneurship centers and CATIs. We use an exploratory qualitative method; we collected data from the support structures through a survey sent to their directors; we received 39 responses from 79 questionnaires that were mailed, and 6 directors were interviewed. The study concludes that the performance of the structures in terms of projects supported or businesses created remains modest. Managers face number of difficulties: the absence of status for some structures, lack of autonomy and resources, and the weakness of networking. There is also the issue of recognition; managers' efforts are not rewarded. And, according to managers, entrepreneurial culture remains weak, which hinders the promotion of an entrepreneurial mindset.

**Keywords:** Incubation, Entrepreneurs, Start-up, University, Support for entrepreneurship.

**Jel Classification Codes:** I23, L26.

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### 1. Introduction:

Contributing to economic development is currently a major challenge for higher education. Universities are called upon to be involved in business creation through the promotion of innovation and entrepreneurship (Clark, 1998; Etzkowitz, 2008), they are becoming key players in the entrepreneurial ecosystem (Hackett & Dilts, 2004). In Algeria, a number of measures have been taken over the last decade to promote the entrepreneurial spirit and encourage the development of innovative ideas in the university environment. These measures include entrepreneurship training, the creation of support structures for project holders and the awarding of a specific diploma enabling the holder to create a start-up.

The creation of new support structures within universities, in particular the Incubator, the Entrepreneurship Centre and the CATI, aims to create an effective entrepreneurial ecosystem that will enable Algerian universities to become a reservoir of innovative businesses. It is therefore necessary to assess the activities of these structures and to review their achievements, and also to identify the main constraints to carrying out their missions. Indeed, we subscribe to the assumption that these support structures are unable to perform their tasks satisfactorily. Even if it is justified that some of them were created recently, the fact remains that they suffer from shortcomings and do not have the predisposition to fully assume their tasks.

Our work will be based on an exploratory qualitative study, which will allow us to analyse the state of support structures' activities in the university environment and identify their main constraints or limitations. This research is based on data collected from support structures through a questionnaire sent to their directors, also based on the literature on business support and the legal texts regulating support structures. In addition, we consulted the websites of all 100 universities and studied the activities published on universities social network pages.

The survey was conducted from January to March 2023. The data collected allowed us to evaluate the projects supported and to summarise the difficulties reported. It is worth noting that research on the role of university support structures in the entrepreneurial process is rare in Algeria, and this study has the merit of covering nearly forty structures.

Our research is divided into five sections: a brief review of the literature on entrepreneurial support, particularly at university level (1), a presentation of the Algerian situation (2), the methodology used (3), the survey results (4) and finally, analysis and discussion (5).

## 2. Entrepreneurial support

### 2.1. Business support: a tool for business development

Business support as a practice emerged in the late 1950s with the creation of the first incubators, offering entrepreneurs a collaborative environment and technical support to develop their businesses. The logic of their operation was cost-minimisation. Driven by private and public initiatives, particularly after the 1980s, assistance has grown in importance and become increasingly specialised, contributing to the process of professionalisation by promoting good practice. It has also become a field of research. Many studies have focused on it (Chabaud & al., 2010). The literature on entrepreneurial support has developed in line with proactive public policies aimed at enhancing supporting structures (Hackett & Dilts, 2004).

Entrepreneurship support has been significantly enriched by the plurality of its practices, diversity of actors and scope of action (Aaboen, 2009; Bakkali & al., 2010). Since the 2000s, new players have emerged, notably accelerators, which aim to enable entrepreneurs to grow their businesses rapidly by accessing resources and, more specifically, professional, technological and financial networks (Messeghem, 2021). Evaluating support can concern the macro or meso level, by examining the governance of policies and the role of entrepreneurial networks, or the micro level, by exploring the different aspects of the supporting profession and the specific practices according to the targets supported (Baraldi & Havens, 2016). Some authors use the concepts of 'kaleidoscope' (Messeghem & Sammut, 2013) to describe the plurality of support practices. It can take a formal form, directed by a structure with a specific mission, or a non-formal form, framed by ethnic or religious minority communities that offer their members a promising environment for the development of their projects (Greene & Butler, 1996).

There is widespread agreement that support for entrepreneurs, is important for starting, developing and sustaining businesses (Aerts & al., 2007). Leger-Jarniou and Saporta write: "Entrepreneurial initiatives require guidance and support at some stage, and the resulting performance is mostly related to the quality and duration of this support" (Leger-Jarniou & Saporta, 2006, p. 6). Entrepreneurship support offers entrepreneurs a range of services to help them make decisions and identify opportunities, access knowledge and resources, network and strengthen their legitimacy towards the different stakeholders (LabexEntreprendre, 2014; NBIA, 2014; Messeghem, 2021), using a variety of practices (Paul, 2002): tutoring, advising, mentoring, accompanying, sponsoring and coaching.

We will also refer to Fayolle and Cuzin's definition, which states that "support is the practice of helping to create a business, based on a relationship established over time and not ad hoc, between an entrepreneur and a person outside the project. Through this relationship, the entrepreneur learns a lot and will be able to access resources or develop skills that are useful for the success of his project" (Fayolle & Cuzin, 2004). From this point of

view, coaching appears to be a continuous learning process resulting from a symbiosis between the coach and the coachee. In other words, coaching performance can only be achieved if it is sustained over time (Deschamps & al., 2010). Broadly speaking, coaching involves 3 stages (Léger-Jarniou, 2008):

- *The reception* will provide information, awareness raising and guidance to the project owner. The support worker will help the project owner to clarify and develop the idea, through information exchange, participation in training courses and even a pre-diagnosis of the project.
- *The support* itself offers help with writing a business plan and negotiating with funders.
- *Post-creation* support aims to help the entrepreneur to manage the creation. It includes personalised services and follow-up.

Moreover, support structures or incubators are not homogeneous. They may have different objectives and characteristics (Aernoudt, 2004, p. 128). This diversity may be in terms of mission, strategy or target audience. However, it is agreed that they share the general objective of supporting business creation and development. According to Grimaldi and Grandi, the specialisation of structures aims to respond better to specific business needs by providing advice and resources adapted to the sector (Grimaldi & Grandi, 2005).

Several typologies have been proposed to highlight the main forms of support structures (Aernoudt, 2004; Grimaldi & Grandi, 2005; Aerts & al, 2007; Messeghem, 2021). Without being exhaustive, we present Messeghem's (2021) typology, which is based on the distinction between missions, objectives and audiences. It should be noted that, in reality, there may be a form of hybridisation that leads to mixed structures.

**Table 1. Features of the different types of incubators**

	<b>Economic and development incubators</b>	<b>Academic and Scientific Incubators</b>	<b>Social Incubators</b>	<b>Business incubateurs</b>	<b>Incubators from private investors</b>
<b>Missions</b>	Contribute to economic development	Developing scientific research	Promoting social innovation	Driving innovation and strategic renewal	developing innovative projects with high value
<b>Objectives</b>	<ul style="list-style-type: none"> <li>- Job creation</li> <li>- Support for specific populations or industries.</li> </ul>	Transforming ideas into projects	<ul style="list-style-type: none"> <li>- job creation</li> <li>- Economic development</li> <li>- Social projects</li> </ul>	<ul style="list-style-type: none"> <li>- Helping employees start their own business</li> <li>- Encouraging employee entrepreneurship.</li> <li>- Providing access to new technologies and new markets.</li> <li>- Making profits.</li> </ul>	<ul style="list-style-type: none"> <li>- Making profits.</li> <li>- Minimising risk by composing portfolios.</li> </ul>
<b>Targets</b>	<ul style="list-style-type: none"> <li>- Small businesses</li> <li>- Craft industry</li> <li>- Retail or service.</li> <li>- In some cases high-tech</li> </ul>	Students and professors	Support for marginalised groups.	- Projects directly related to the core business of the company	Start-up

Source: Messeghem (2021, p.45)

## 2.2. Entrepreneurship and university

Universities are currently undergoing changes that are reshaping their role. They are taking on new missions that involve them more closely in economic and social development. (Clark, 1998; Etzkowitz, 2008; Schaeffer, 2019). Universities are asked to integrate innovation and risk, to become proactive and generate entrepreneurial activities (Moreno & al., 2019). Entrepreneurship, relegated to the post-university level, now seeks a place in the new millennium university (Etzkowitz, 2003). We are, in fact, witness to what Goldstein describes as an 'entrepreneurial turn' (Goldstein, 2010, p. 83).

This new mission therefore requires knowledge transfer from universities to industry, and especially to companies most likely to make effective use of knowledge. It also requires the implementation of systems for incubation and creation of start-ups (Schmitt & al., 2004).

In this sense, Grimaldi & Grandi state that "university incubators are created by universities willing to take on a direct entrepreneurial role in the generation and dissemination of scientific and technological knowledge". The authors define university incubators as academic institutions that support start-ups through tangible and intangible services. These services consist mainly of (a) typical business incubation services, such as shared office services, business support, access to capital, business networks and rent subsidies; and (b) academic services, such as academic advisors, student workers, promotion of the university, library services, laboratories/workshops and equipment, mainframe computers, related R&D activities, technology transfer schemes, staff training and other social activities (Grimaldi & Grandi, 2005, p. 112).

University incubators are also seen as an instrument for value creation in research and technological development through the promotion of spin-offs (Krichen & Chabaud, 2019). Spin-offs are one of the most effective ways to transfer new technological knowledge and develop innovation, especially in high-tech sectors, and are potentially very important for developed countries with strong basic research (Sternberg, 2014).

There are four factors to be considered when assessing the performance of incubators (Audet & Couteret, 2012 ). These are: the support structure, the characteristics of the support provider, those of the supported, and the relationship between the support provider and the supported. From a broader perspective, the emphasis is on infrastructure, networks, technical and human support and institutional reputation. Various indicators have been developed to capture incubator performance (e.g. occupancy, business survival, job creation, number of abandoned projects, etc.) (Theodorakopoulos & al., 2014). According to Patruel and Maalel, Performance can be measured by three criteria: effectiveness, efficiency and impact. Effectiveness refers to the ability to achieve objectives, efficiency is characterised by value for money, while impact measures the level of stakeholder satisfaction (Patruel & Maalel, 2016).

It is worth noting that there is a lack of consensus on the performance of incubation structures due to their heterogeneous objectives and approaches, making it impossible to establish a uniform evaluation system. Broadly speaking, the difficulty of identifying the performance of these structures is increasing, given the relationships they maintain with the entrepreneurial ecosystem (Messeghem, 2021). It is not easy to assess the contribution of each actor in the entrepreneurial ecosystem to the success of the incubated project.

### **3. The situation in Algeria**

#### **3.1. Promoting entrepreneurship**

As early as 1993, the Algerian government made a major commitment to promoting entrepreneurship. Several agencies were set up by various ministries as part of the national job creation policy. The first agency was ANDI for large companies and foreign direct investment. ANSEJ was set up by the Ministry of Labour in 1996 to support and finance projects with capital between DA 5 million and DA 10 million. During its first year, over 14,000 small enterprises were created (Laib & Benredjem, 2017, p. 139). By 2003, the Ministry of Industry had set up business incubators, and today there are some 45 of them. The CNAC, the national fund for unemployment insurance, was entrusted with the same tasks as the ANSEJ since 2004. In 2005, ANGEM for small projects with capital of up to DA 1 million was set up by the Ministry of Solidarity.

All of these institutions help project owners by granting interest-free loans or bank loans at 100% subsidised interest rates, as well as tax exemptions for periods ranging from 3 to 10 years, depending on the region and type of project. These tax incentives are renewed when a business expands or hires more than 3 employees on permanent contract. The ANSEJ has funded 761 different activities (Missaoui, 2020, p. 144), an average of 45 projects per day through its 173 offices.

In 2009, the government established ANPT, which oversees 7 technoparks and is tasked with creating an ecosystem for the development of ICT and digital industries. Since its creation, this agency has hosted more than 600 project holders, including 34 start-ups. In 2020, ANSEJ was renamed ANADE and placed under the SME ministry. Also in 2020, a Ministry for the Knowledge Economy and Business Start-ups has been set up. A multisectoral committee under this Ministry is responsible for examining applications for accreditation of projects and business incubators, whether public or private, according to clearly defined criteria. Currently, 14 private incubators are accredited. The committee awards the "innovative project" or "start-up" label to project holders. The "innovative project" label means that the "startup" label can be obtained systematically once the company is established. Start-ups benefit from substantial tax exemptions over a 4-year period, as well as reduced customs duties on imported equipment. Start-ups are financed by the ASF, a fund owned by six public banks. To further support startup growth, in 2021 the Ministry established a public accelerator, Algeria Venture, which has supported over 800 startups.

In addition to government actions, a number of associations under French or American law, initiated by the Algerian diaspora, offer advice to Algerian entrepreneurs. In fact, young entrepreneurs are more likely to seek advice from the private sector, according to a 2016 survey on Algeria, conducted by the Global Entrepreneurship Monitor (GEM). Some of these associations have been set up by entrepreneurs operating in Algeria. The most active are: NAPEO, REAGE, AME, SEVE, ALLINOV, etc. (Harrar, 2021, p. 405-406).

## 2.2. Support structures

There are currently a large number of specialised business support structures offering a range of services such as awareness of how to start a business, training, advice, accommodation and funding. The table 2 below gives a summary of these structures.

The university support structures covered by the study are: the entrepreneurship centre, the incubator and the CATI.

The initiative to provide each university with an entrepreneurship centre started in 2013, as a result of an agreement between the ministries of higher education and labour. However, the first pilot structure was created in 2007 at Constantine University in partnership with Pierre Mendès-Grenoble University. The main missions of this structure are:

- To raise awareness and spread the entrepreneurial culture;
- Entrepreneurship training for students;
- Pre-coaching students with projects.

In partnership with ANANDE, the centre organises information days, seminars, round tables, summer universities, competitions for the best idea and training sessions on business models. The 84 centres are supervised by a national committee composed of representatives from the Ministry of Labour and the Ministry of Higher Education.

**Table 2. Structures for the support of entrepreneurs in Algeria**

	Target public	Sector	Length of support	Entrepreneur Profile
Centre of facilitation	All project owners	All sectors.	Ante-creation phase (between 3 and 12 months)	Non-selective
Business incubators (Public)	All project owners, fledgling business.	All sectors.	24-36 months renewable	Non-selective
Government agencies promoting job creation and entrepreneurship	All project owners, fledgling business.	All sectors.	Ante and post-creation phase	Non-selective
Academic incubators	Student, postgraduate student, researcher.	Directly linked or not to the research field or to the laboratory.	Ante-creation phase (12 months renewable)	Selective

Technological park	Innovative projects	ICT, High Tech.	30 months spread over the three incubating phases (24 months for start-up)	Selective
Private Incubators	All project owners, fledgling business.	All sectors	/	Selective.
Association	Student, All project owners.	All sectors.	/	Non-selective.

**Source:** made by the authors according to the summary presented by Harrar (2021, p.409).

In 2012, the Ministry of Higher Education included the incubator as one of the common services provided to the universities for scientific research (Journal officiel, 2012, p. 13). In 2020, the legislator will define the tasks to be performed and the way in which the University Incubator operates (Journal Officiel, 2020, p. 10):

- To domicile incubated projects.
- Assist project owners in setting up their businesses. Help them to develop business plans and to raise funds.
- Provide training in business management.
- Provide project holders with logistical and office resources.
- Help start-ups to design prototypes.

CATI's main task is the promotion of research results. It assists professors and students to patent their innovative ideas. It also helps to raise awareness of industrial property rights.

### 2.3. Literature on support:

In the Algerian context, very few studies have focused on the role of support structures, particularly at the higher education level. Most of them are case studies aimed at examining how a single structure works and how effective this operates. There has been no study of a wide number of structures. Our study is the first of its kind to look at a large sample of higher education structures. Below is a summary of the main research findings, which are grouped into three thematic sections:

- **The entrepreneurial ecosystem:** Sabeha Harrar, who listed all the public supporting structures (Agencies, Incubators, Accelerators, etc.), how they operate and what they're tasked with (Harrar, 2021). Nassira Kouraiche highlighted the achievements of all these structures in terms of SMEs created (Kouraiche, 2018).
- **The effectiveness of support (or case studies):** Abdellaoui and Chouih studied the results achieved by the M'sila University Incubator in terms of innovative projects and patents obtained. They identified certain difficulties, such as the lack of resources and the absence of a legal text defining the status of incubator staff. According to this study, cumbersome financing procedures and unavailability of land inhibit incubated projects (Abdellaoui & Chouih, 2021). The same study was carried out by Bouchair on the Khenchla incubator, examining the projects incubated, awareness raising activities and the 20 businesses founded between 2014 and 2018, with the 264 jobs created (Bouchair & al., 2021). Adel and Belhoucine studied the Entrepreneurship Centre at the



University of Béchar. They interviewed 25 innovative idea-holders supported by the structure. (Adel & Belhoucine, 2021) The study highlighted the difficulty for students in designing the prototype of their project.

- **Developing the entrepreneurial mindset:** Merzoug & Bouchair measured the positive impact of the support offered by three business incubators on the entrepreneurship mindset within a sample of 36 project holders (Merzoug & Bouchair, 2020). The same study was conducted by Allal and Abdallaoui at the Entrepreneurship Centre of El Oued University with 81 students. The empirical study concluded (Allal & Abdallaoui, 2022) that awareness-raising activities contributed 36% to the consolidation of entrepreneurial intentions. This type of research was also carried out by Benourida and Hebboul at the Entrepreneurship Centre of Skikda University. This was aimed at assessing the contribution of the structure to spreading entrepreneurial culture. After a survey of 121 Master II students, the estimate of this contribution was 41.5% (Benourida & Hebboul, 2022).

### 3. Method:

#### 3.1. Collecting the data:

we started by collecting information (e-mail, telephone number, name of manager) about the support structures by consulting the websites of the 100 existing higher education institutions: 54 universities, 37 high school and 9 university centres. We also used the social networking sites managed by these organisations to gather the information we needed. We found that means to contact these structures are rarely available via the institutions' websites, and in some cases the structures are not listed in the organisation chart. The information that can be found on the websites:

- Missions and organisation.
- Reports on achievements: awareness days, training courses, etc.
- Competitions organised.
- How to make a BMC (business model).

It is worth noting that, for the most part, these structures do not provide information on the number of businesses they have helped to create, except for the Sidi Bel Abbes University Entrepreneurship Centre, which displays the logos of small businesses created on its website, and the Polytechnic school of Algiers, which lists its students' innovations.

According to the 2022 report issued by the Ministry of Higher Education, there are 84 entrepreneurship centres in universities (MESRS, 2022, p. 70). And according to the president of the National Coordination and Monitoring Committee for Innovation and University Incubators (CNCSIU), the number of incubators is 91 (Mir, 2022). However, we were not able to find out the exact number of CATIs.

We were able to collect 79 contacts: 39 entrepreneurship centre directors, 35 incubator directors and 5 CATI managers. We emailed them the survey.

### 3.2. Questions asked:

The questionnaire contains 18 questions on the following topics:

- Identification: name of the institution, type of structure and date of establishment.
- The structure's size and whether it's suited to the task.
- Communication approach: the respondent had to choose one of 4 actions and indicate other actions not mentioned in the questionnaire.
- Awareness strategy evaluation.
- Number of projects supported, projects awarded the innovative project or start-up label and number of companies created.
- An assessment of students' interest in entrepreneurship according to their field (Social Sciences and Humanities, Science and Technology).
- The handicaps faced in managing the structure. Respondents were asked to select from the 5 obstacles listed in the questionnaire.

We asked two open-ended questions to allow respondents to highlight other difficulties in carrying out their tasks and to give their assessment of the limits to students' entrepreneurial mindset.

### 4. Results:

#### 4.1. Presentation of the sample:

Due to the difficulty of contacting all the actors involved in the support, we were interested in only one stakeholder: the structures managers. Our focus is therefore on the pre-creation phase. The absence of the post-creation aspect is due, on the one hand, to the lack of usable data, and, on the other hand, to the fact that the university support structures have been set up recently and are essentially aimed at the pre-creation phase. We also decided to group them together because these structures have the same main objective at this stage of the support process, namely to help project holders start their business.

We received 34 questionnaires by e-mail. This represents a response rate of 43% (out of 79 e-mails sent). We were able to conduct 6 interviews with the managers of 2 incubators and 4 entrepreneurship centres. Structures studied are shown in the table below:

**Table 3. Structures studied**

	Entrepreneurship centre	Incubator	CATI	Total
University	13	19	3	35
University Centre	-	-	-	-
High School	1	3	-	4
<b>Total</b>	<b>14</b>	<b>22</b>	<b>3</b>	<b>39</b>

Source: Prepared by researchers.

Among the respondents, 5 managers were in charge of two structures at the same time, the incubator and the entrepreneurship centre or the incubator and the CATI. In other words, the survey covers 39 support structures spread over 28 institutions (see Annex), but the number of questionnaires collected is 34, as some managers run more than one structure at the same time. The regional spread of the sample is as follows<sup>1</sup> :

**Table 4.Regional spread of the sample**

		Centre	East	West	Total
University	EC	3	7	3	13
	Incubator	4	9	6	19
	CATI	1	2	-	3
High School	EC	1	-	-	1
	Incubator	3	-	-	3
Total		12	18	9	39

Source: Prepared by researchers.

The structures were created between 2007 and 2023. They ranged in size from 9 m<sup>2</sup> for an entrepreneurship centre to 1,000 m<sup>2</sup> for a business incubator. Six of the structures were less than 50 m<sup>2</sup> in size and six were more than 500 m<sup>2</sup> in size. We cannot give a summary of areas because some managers did not know their own structure's area and others gave the area of two or three structures together. Regarding adequacy, the following results were obtained:

**Table 5. Managers' assessments of surface area adequacy**

	Percentage of respondents
The area is considered adequate by the manager	42.4 %
The surface area is considered quite adequate	27.3 %
The surface area is inadequate	30.3 %
Total	100 %

Source: Prepared by researchers.

#### 4.2. Strategy for raising awareness:

We chose 4 actions, organising awareness day is the action carried out by all the managers, their answers were as follows:

**Table 6. Awareness-raising campaigns**

	Number of respondents	%
Organising awareness-raising days	34	100 %
Raising awareness via social networks (the structure's Facebook page)	33	97.1%
Raising awareness via the university website	23	67.6 %
Advertising posters	17	50 %

Source: Prepared by researchers.

In addition to these activities, which are used by almost all structures to raise awareness and inform students, the following actions were mentioned by respondents

- Radio broadcasts.
- Raising awareness within the student associations and the scientific clubs.
- Media events.
- Information campaigns in faculties.
- Organising competitions.

Most managers considered their communication activities to be sufficient to raise awareness of entrepreneurship (67.6% of respondents). Only 17.6% of respondents considered their strategy to be very adequate and 14.7% still considered it to be inadequate.

#### 4.3. Achievements:

We asked managers how many project holders they had supported since the structure was created, 10 answers were discarded. Some did not know the exact number, while others did not give a precise answer.

**Table 7. Number of project holders supported.**

Number of project holders	Number of structures
Less than 20	11
Between 20 and 50	4
Between 50 and 100	5
Between 100 and 300	3
More than 2000	1
<b>Total</b>	<b>24</b>

Source: Prepared by researchers.

The number of projects supported by all structures and labelled "Start-up" is 51, distributed as follows:

**Table 8. Projects labelled "Startup "**

Number of label	Number of structures
None	21
Between 1 and 5 labels	9
Between 6 and 10	4

Source: Prepared by researchers.

The number of projects supported by all structures and labelled "Innovative project" is 80, distributed as follows

**Table 9. Projects labelled "Innovative project"**

Number of label	Number of structures
None	18
Between 1 and 5 labels	10
Between 6 and 10	2
More than 10	1

Source: Prepared by researchers.

The number of businesses actually created as a result of support given is 595, distributed as follows:

**Table 10. Businesses created**

Number of businesses	Number of structures
None	18
Between 1 and 30	13
Between 30 and 100	1
More than 100	2

Source: Prepared by researchers.

#### 4.4. Obstacles faced:

We identified five likely constraints. 85.3% of respondents (29 managers) said they had encountered difficulties in carrying out their missions. The responses were as follows:

**Table 11. Limitations to managing the structure reported by managers.**

Obstacles	Number of respondents	Response rate
Allocation of resources	16	53.3 %
Slowness of administrative procedures	15	50 %
Lack of autonomy	17	56.7 %
Lack of staff to assist project holders	24	80 %
Insufficient staff training	19	63.3 %

Source: Prepared by researchers.

Managers also highlighted other difficulties, which can be summarised as follows:

- Lack of motivation and incentives to manage the structure.
- Confusion on the status of the entrepreneurship centre, which is not part of the institution's organisational chart. Also the structure has no specific budget.
- Teachers refusing to train project holders without receiving any remuneration or other compensation.
- No clear legal text defining the incubator's organisational chart and work assignments.
- No scientific committee to select and evaluate projects.
- Unclear system for remunerating those managing the structure.
- Lack of Fablab.
- Weak commitment of administration and professors to support.
- No clear vision in terms of objectives for the incubator's missions.
- No indication on how to finance the different incubation phases.
- Unsuccessful involvement of ANVREDET<sup>2</sup> in the support.
- Weakness of the support skills.

#### 4.5. Entrepreneurial mindset of students:

We wanted to find out how managers assess students' entrepreneurial spirit: interest in entrepreneurship by field, and factors inhibiting the act of entrepreneurship.

**Table 12. Managers' assessment of students' interest in entrepreneurship by field.**

	very low	quiet low	moderate	quite high	very high
Social sciences and humanities students	6.5 % <sup>*</sup>	32.3 %	35.5 %	22.6 %	3.2 %
Science and technology students	2.9 %	8.8 %	26.5 %	41.2 %	20.6 %

\* 6.5% of managers consider the interest in entrepreneurship among students from social sciences and humanities to be very low.

The open-ended question allowed us to identify the following factors

- Lack of support for the project owner after setting up the business.
- Insufficient networking between students.
- Socio-cultural factors: an entrepreneurial culture that is not widespread in society, and mistrust of bank loans with interest rates that are considered illegal in religion.
- Lack of funding: students focus more on the financial side and consider advice or training support to be of less important if funding is not guaranteed.
- Fear of counterfeiting or fraudulent imitation by the market.

#### 5. Discussion

We can make the following analyses from the responses to the questionnaires and those obtained during the interviews:

We thought it would be useful to know how much space the structures have, as this indicates their capacity. A large surface area is needed to hold training courses, organise workshops for students, set up a fablab or provide housing for project owners. Ten respondents found the surface area inadequate to the volume of their activities. These areas varied from 9 m<sup>2</sup> to 500 m<sup>2</sup>. On the other hand, almost  $\frac{3}{4}$  of the respondents were of the opinion that the surface area was adequate or quite adequate. Obviously, in the latter case, this assessment remains relative, since it depends on the number of projects applying for support, which in principle does not represent a pressure on the activity of the support structures.

Raising awareness is very important because the academic training provided at university tends to predestine graduate to be an employee, not an entrepreneur. Consequently, we are seeing an explosion in the number of awareness-raising or training events in universities. According to the Global Entrepreneurship Network, during Global Entrepreneurship Week 2022, Algeria ranked first with 2,187 activities organised. These various awareness-raising activities, which take place regularly, allow students to benefit from a wealth of experience and offer real opportunities to build a network of contacts that will be very useful for the creation and success of their projects. Overall, however, despite the recent increase in awareness-raising activities, those

offering opportunities for fruitful interaction with entrepreneurs and business networking are relatively rare. Indeed, the lack of networking is one of the most striking deficiencies in the activities of the support structures in our sample. Networking through organising seminars, forums and events to facilitate interaction with enterprises located in the area covered by these structures is limited<sup>3</sup>.

This situation can partly be justified by the recent creation of most of these structures, but it is further complicated by the absence or weakness of links between universities and enterprises. Although universities, through their external relations departments and the university-business liaison offices (BLEU)<sup>4</sup>, sign many agreements with businesses, they do not derive much benefit from them. Interaction between universities and companies is generally limited to student supervision and mobility (Mancer, 2015). Support structure management teams struggle to run networks that connect project holders with the best commercial, industrial, institutional and expert partners.

The disparities between the performances of the different structures are obvious. Ideas for business projects depend on several factors: students' creativity, their entrepreneurial mindset, the region's entrepreneurial dynamism, the local market's state in terms of saturation or, conversely, the number of unexploited opportunities, the intensity of awareness-raising, etc. All these factors, together with the length of time the support structure has been in operation and the effectiveness of its work, explain the disparities observed. Three entrepreneurship centres contributed to the creation of 528 of the 595 reported enterprises. The centre at the University of Constantin 2, which started operating in 2007, had supported more than 2,000 projects and 100 enterprises had been created. The centres at the Universities of Tlemcen and Djelfa, both in operation since 2013, have contributed to the creation of 88 and 340 small businesses respectively. Some support structures are more successful than others in working with entrepreneurs because they are more experienced.

It should also be noted that there are virtually no projects resulting from the exploitation of research activities carried out in university laboratories, which are mostly carried out by researchers rather than students. The number of patents has increased from 132 in 2011 to 420 in 2021, according to the General Department of Scientific Research and Technological Development (DGRSDT). However, these results are not exploited because there is no legal framework for creating spin-offs<sup>5</sup>. The National Fund for Scientific Research and Technological Development (FNRSRT) finances university research projects and also covers various costs associated with supporting the project<sup>6</sup>, but there are no legal regulations to organise the developing and commercialising phase.

We identified several difficulties managers face in running their structures. In addition to the five obstacles listed above, the managers had identified the following in the open-ended question:

- No reward system.
- Absence of vision and goals.
- Too many actors involved in the management.
- Lack of a text clarifying workings of the system.
- Absence of support competence.

Compensation issues were raised by seven managers. Each structure is managed by a volunteer professor and the trainers are also volunteers. There is no legal regulation to reward professors for taking on these new responsibilities, which explains the lack of commitment, incentive and motivation mentioned by those surveyed. The career of any lecturer depends essentially on scientific publications and, to a minor extent, on the teaching tasks. Therefore, no lecturer could continuously agree to take on tasks that are not rewarded.

The autonomy problem was mentioned by 17 respondents. The Entrepreneurship Centre was created on the initiative of the Labour Ministry, so the agency ANADE, which is affiliated to that Ministry, is an important partner in the management of the centre. Another agency, ANVREDET, affiliated to the Ministry of Higher Education, is involved with the incubator in organising competitions. According to one manager, "its intervention is ineffective and its role is rather ambiguous". Autonomy is therefore considered to be limited due to the number of actors involved. This multiplicity of actors does not make it easier for the structures to function efficiently, especially if responsibilities and roles are not clearly defined. The risks of overlap and interference, lack of communication and conflict are increased.

According to another respondent, there was no exhaustive national assessment of the existing structures' activities before creating new ones. It would be better to analyse the real contribution of the 84 entrepreneurship centres, which may have been operating for more than five years before the creation of the incubators. The two structures have the same missions and learning from the first experience would have made it possible to improve the weaknesses identified and then define an effective and coherent framework for a second structure.

The issue of skills was underlined by the manager of an entrepreneurship centre: "A lecturer with an academic background and no experience of setting up a business, running it and sustaining it in a competitive market cannot be fully effective in providing support ". The excessive reliance on a staff of trainers and mentors, the majority of whom are academics, means that the training provided to project holders is mainly theoretical and does not provide sufficient opportunity to learn the skills needed for entrepreneurship (Bakkali & al., 2010).



In addition, of the 29 managers who reported difficulties, 24 cited a lack of support staff and 19 cited inadequate training of this staff. In most cases, however, these academics are involved in all the phases of support; they constitute the juries responsible for selecting and evaluating projects for support. As a result, the heavy influence of the academical side on the training team means that the training offered is relatively standardised, even static and repetitive. This also explains the similarity of the training services offered by the structures, despite the fact that they are supposed to provide diversified services. However, each project is unique and, above all, the needs of each entrepreneur are very specific, making it essential to segment projects in order to provide them with a more personalised offer that is better suited to their objectives (Léger-Jarniou, 2008).

This situation highlights the imprecision and confusion surrounding the role of each individual in business support. The manager we spoke to recognised his own limitations, as well as those of all the support staff of the centre. The manager of a support structure, or the trainer, have to be entrepreneurs themselves, who have overcome all the difficulties and are now leading a healthy, successful business, in order to set an example and be able to answer all the future entrepreneurs' questions. They need to be good teachers, able to simplify the concepts, clear-sighted enough to recognise the natural entrepreneurs, the predestined ones, and guide them towards their future.

Thus, in addition to the lack of material, human and financial resources, there is also a lack of institutional support, as reflected in the confusion surrounding the operation of support due to the absence of organic texts governing the activity of support structures. Moreover, these different structures, which are supposed to have relatively different but complementary roles during the support process, are in fact, and in many cases, in interference situations as they carry out the same activities.

All these factors partly explain the lack of objectives and vision, and even the absence of a strategy for these structures, as noted by the interviewees. In fact, setting a quantified objective, more or less achievable, for each structure, would mean appointing a skilled manager able to provide full support, granting the necessary resources and autonomy, allocating adequate remuneration and clarifying the missions. In absence of such a concept of support, each structure is not committed to achieve results and confusion arises as to the degree of legitimacy or effectiveness of the actions undertaken.

According to our questionnaire, Science and Technology (ST) students have a relatively high interest in entrepreneurship compared to Social Sciences and Humanities (SH) students. The managers surveyed expressed their views based on their experience: 21 respondents considered this interest to be high for ST fields, compared to 9 for SH fields, and 12 respondents considered it to be low for SH fields, compared to 4 for ST fields. We

recognise the limits of the method used to reach this result, empirical studies would have to be carried out to estimate the actual interest of students in different fields of study.

The assessments gathered are based on direct observation of students during awareness days or the number of students who visited the structures to ask for information. Nevertheless, the entrepreneurial intentions of students in the ST fields are rather stronger than those of students in the SH fields. Students in the ST fields are more likely to consider setting up a business, especially technological ones. Ideas for many projects emerge in their minds, partly thanks to the training they receive at university. Conversely, HS science training is less involved in this process (Barba-Sánchez & Atienza-Sahuquillo, 2018).

Several factors limit the entrepreneurial mindset among students. According to a CATI director, the risk of imitation and counterfeiting and the worry of being overtaken by the competition inhibit entrepreneurial initiative. The holder of an innovative idea is only interested in obtaining a patent, even though the idea has a chance of being turned into an industrial project, and the main obstacle to entrepreneurship is the risk of facing the market. According to a report published by the World Economic Forum (2019), the weakness of intellectual property protection in Algeria explains partly why economic actors, especially companies, are not keen on creating and innovating. Algeria is ranked 79th in 2019 in the World Economic Forum's intellectual property protection index (WEF, 2019).

Concerning socio-cultural factors, some respondents noted the weakness of the entrepreneurial culture in society. We cannot provide an exhaustive analysis of this situation. However, it is important to note that employment remains more prevalent in Algerian society, as families prefer job security, especially in big companies or the public administration. Setting up a small business or learning a craft has always been the alternative for those who fail to get into university. The extremely complicated and laborious process of setting up a business discourages parents from pushing their children, especially girls, towards entrepreneurship after graduation.

The second factor mentioned was the interest rate on bank loans. According to some respondents, many students come to the support structures with good ideas and ask about support and financing methods for their projects. ANADE offers triangular financing, consisting of a 5% personal contribution, a contribution from the State and a bank loan with subsidised interest rates (paid in full by the State). But students soon abandon their plans due to the uncertainty of how the loan will be repaid. Those who consider bank interest to be illegal from a religious point of view look for a state subsidy that would finance the entire project without any recourse to the bank. Moreover, it's difficult for the majority of students with a project to provide even a small personal contribution. As one respondent pointed out, this makes any support measure irrelevant in the absence of visibility over funding.

## 6. Conclusion:

This article aimed to provide a diagnostic of the existing university support structures for entrepreneurship in Algeria, namely: the incubator, the entrepreneurship centre and the CATI. It has allowed us to conclude that the real impact of the support is, on the whole, modest. It seems that the support structures in Algeria have various weaknesses that hinder their operation. Although significant efforts are being made to raise awareness of entrepreneurship, it is difficult to make support effective.

Support structures face many constraints, particularly of a functional, organisational and socio-cultural nature. Absence of a legal regulation reinforces the confusion about the missions and objectives of the structures. This increases the risk of interference or even conflict. The lack of autonomy, specialised human skills as well as financial and material resources limits the capacity of these structures.

The weakness of networking or interaction with businesses means that they are unable to provide better social capital support to project holders. It is also worth noting that the weak entrepreneurial culture in general makes it difficult to create an ecosystem that promotes entrepreneurship.

The modest results of the support structures in Algeria, as well as their limitations in providing effective support to project owners, can be explained by the fact that the support system is relatively nascent. Many of these structures are new and their recent establishment puts them at the beginning of the learning curve.

However, this learning needs to be initiated and promoted within a larger institutional perspective through participation of all stakeholders. In this case, the implementation of an overall strategy is essential to focus efforts and make them fruitful. The challenges are many and varied, and several projects need to be initiated: rethinking entrepreneurship education, strengthening support structures with resources (infrastructure, financial and human), changing governance and leadership, networking, entrepreneurial culture.

It is worth noting, that the results obtained here need to be further explored. Indeed, the process of turning an idea into a business is an extremely laborious one, especially when the initiator of the project is a young student without any previous and effective integration into the business environment.

We cannot discuss all the factors behind the very modest results achieved by most of the structures, but the complexity of the entrepreneurial process itself partly explains the very low number of businesses created. Although this study has the privilege of surveying a large number of structures, it has not been able to survey a large number of actors in order to examine in depth the university support systems.

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54. **Annex:** higher education institutions studied
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56. University of Abdelhamid Mehri, Constantine 2
57. University of Hadj Lakhder, Batna<sup>1</sup>
58. University of Akli Mohand Oulhaj de Bouira
59. University of Mohamed Boudiaf de M'sila
60. University of Kasdi Merbah de Ouargla
61. University of Echahid Cheikh Larbi Tébessi de Tébessa
62. University of Chadli Bendjedid d'elTarf
63. University of des Frères Mentouri, Constantine 1
64. University of Émir Abdelkader des Sciences Islamiques de Constantine
65. University of 20 Aout 1955 de Skikda
66. University of Ben Youcef Ben Khedda, Alger<sup>1</sup>
67. University of 8 Mai 1945 de Guelma
68. University of Ahmed Ben Bella, Oran 1
69. University of Djillali Liabes de Sidi Bel Abbès
70. University of Larbi Ben M'hidi d'Oum El Bouaghi
71. University of Belhadj Bouchaïb d'Ain Temouchent
72. University of Abou Bekr Belkaid de Tlemcen
73. University of Mustapha Stambouli de Mascara
74. University of Abselhamid Ibn Badis de Mostaganem
75. University of Ahmed Draya d'Adrar
76. University of Ferhat Abbas, Sétif 1
77. University of M'hamed Bougara de Boumerdes
78. University of Ahmed Zabana de Ghelizane
79. University of Ziane Achour de Djelfa
80. High School of Management, Algiers
81. High School of Management and Digital Economy, Algiers
82. National High School of Agronomy, Algiers

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<sup>1</sup> We have adopted the Ministry's distribution of the university network. Institutions in the south of the country are grouped together with those in the centre, west or east. However, in our survey there are two universities in the south. For details of the Algerian university network, see the following link: <https://www.mesrs.dz/index.php/fr/reseau-universitaire/>

<sup>2</sup> A government agency under the Ministry of Higher Education responsible for promoting the results of university research.

<sup>3</sup> This area of action refers to the administrative boundaries of the department in which the higher education institution is located. However, the scope of the network can go beyond these boundaries. It can even have an international reach.

<sup>4</sup> Business/University Liaison Offices (BLEUs) have been established in each university to facilitate closer links and interaction between the two actors: university and business.

<sup>5</sup> Only Law No. 22-16 modifying Law No. 90-11 of 21 April 1990 on working conditions, approved on 20 July 2022 (Journal officiel No. 49, 2022), gives workers a general right to take an unpaid break to set up a business, once during their careers.

<sup>6</sup> According to the Official Journal no. 57 (2012, October), these costs include: training and support for project holders; industrial property, design and definition of the project to be supported; viability assessment; experimentation; design of prototypes, maquettes, pre-series, pilot installations and demonstrations.