

Requirements for Activating the Partnership Between University Business Incubators and the Private Sector in Algeria: The Experience of the United States and Saudi Arabia

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Abstract:

In this research paper, we sought to shed light on the requirements for linking university business incubators with the private sector. We first discussed concepts surrounding university business incubators and the challenges facing their success. We also reviewed international experiences in this field, including the United States' experience with university business incubators and the Saudi experience in strengthening partnerships between university business incubators and the private sector. Finally, we evaluated the Algerian experience. One of the most important findings we have reached is that the Algerian experience is recent and limited, and requires significant efforts to create productive universities open to the economic environment through university business incubators.

Keywords: University Business Incubators; Private Sector; Partnership.

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1. INTRODUCTION

Given the significant role of university business incubators in achieving integration between universities and the private sector, whether in the field of scientific research or education and training, many countries have turned to investing in and supporting these incubators, as university business incubators contribute to establishing and developing emerging projects in all their fields, and supporting entrepreneurs through a group of services (financial, administrative, training, technical, accounting, consulting, information, legal. This support is not limited to a specific economic field in a given society, as it aims, in general, to support entrepreneurship, encourage and invest in innovation and creativity, develop human resources, link outputs to the labor market, in addition to developing educational systems, and contributing to serving society in various economic fields. Its types vary depending on the type of project it supports and incubates, the location where the incubator is located, the services it provides, or the nature of its ownership. University business incubators are closely linked to the private sector, as they are the main supporter of small and medium-sized private sector companies and establishments, and are responsible for transforming innovations into products linked to private sector activities. University business incubators are closely linked to the private sector, as they are the main supporter of small and medium-sized private sector companies and establishments, and are responsible for transforming innovations into products linked to private sector activities. In return, the private sector provides financial and technological support to these incubators. Furthermore, their association with universities provides access to academic expertise, scientific foundations, and scientific supervision while benefiting from the technological, material, and human resources available within universities.

Statement of the Problem:

What are the requirements for activating the partnership between university business incubators and the private sector in Algeria?

To study this issue, this work has been divided into four main elements as follows:

***Requirements for Activating the Partnership Between University Business
Incubators and the Private Sector in Algeria
The Experience of the United States and Saudi Arabia***

- Concepts of university business incubators.
- The American experience in university business incubators.
- Partnership between university business incubators and the private sector - the Saudi experience-.
- The Algerian experience.

2. Concepts of University Incubators

2.1 Definition of a University Business Incubator:

University business incubators are defined as comprehensive service institutions within higher education establishments that offer programs, activities, and services to university students and graduates related to entrepreneurship, innovation, project establishment, and how to manage and develop these projects to ensure their sustainability, growth, and long-term success (Bensaada & Gourari, 2022). They help students develop their ideas and transform them into entrepreneurial ventures, providing them with greater opportunities for success. These are also referred to as research incubators, as they focus on ideas and projects related to research and technology development. Such incubators are typically located within universities or research centers, as is the case in Algeria (Louiza, 2020).

2.2 The Importance of University Business Incubators:

The importance of university business incubators can be summarized as follows (Mohamed Mahdy, Mahmoud, & Abbas Ali, 2019):

- Contributing to increasing the success rate of projects by providing services, support, and consultations.
 - Providing scientific consultations and feasibility studies.
 - Utilizing the results of scientific research, innovations, and creativity in the form of productive projects.
 - Promoting community entrepreneurship by supporting new projects, thereby contributing to economic development.
 - Contributing to the diversification of economic activities within the national economy (Rizk & Foda, 2024).

2.3 The Objectives of University Business Incubators:

University business incubators have become a tool for economic development, aiming to achieve a number of objectives, including: (Ben Atiya & Miah, 2022):

- Aiming to link the university with its external economic and social environment by applying the research of faculty and students, turning it into entrepreneurial ideas.
- Leveraging university research and its outcomes as a source of innovation for both the economy and society, and as a foundation for developing business ideas.
- Supporting innovative and creative researchers by transforming their research and projects from mere ideas and prototypes into production and investment opportunities.
- Promoting the commercialization of scientific and technical innovations while addressing brain drain.
- Contributing to the development of a knowledge-driven, information-based society.

2.4 Challenges to the Success of Business Incubators in Universities:

There are several internal and external challenges that contribute to the success of business incubators, whether university-based or otherwise. The most important of these include the following: (Younis Mia, Nasser, & Hekmat Issa, 2022, pp. 263-264)

- ✓ **External challenges:** These are challenges related to the external environment that lie outside the incubator's control but impact its performance in delivering services. They include the following:
 - **Appropriate infrastructure for economic activity:** The ability to accommodate rapid developments in transportation, communication, road networks, and ease of access to these services at minimal costs, in addition to providing a supportive business environment (such as research, training, and consulting).
 - **Funding sources:** Business incubators face the challenge of insufficient funding, which limits their ability to support startups and

Requirements for Activating the Partnership Between University Business Incubators and the Private Sector in Algeria
The Experience of the United States and Saudi Arabia

keep them afloat. Most incubators lack internal funding sources to sustain their operations (Bouadla & Ben Taib, 2020).

- **Political and legal challenge:** Society in general, and youth in particular, face numerous challenges due to the political situation, which affects the investment and economic environment. These challenges include the government's failure to offer incentives and support for entrepreneurs and small and medium-sized businesses, the scarcity of legislative and legal frameworks that facilitate innovation, invention, research, and development, and the lack of systems that promote technology development and transfer. Moreover, there is a shortage of efficient and streamlined government procedures that would encourage the operation of incubators.
- **Social and cultural challenge:** This factor impacts entrepreneurship among youth, as the perception of entrepreneurship plays an important role in encouraging it. However, the fear of failure is a significant barrier for young people. Additionally, there is a lack of a minimum level of creative culture, both at the individual and community levels, which hinders entrepreneurial efforts.
- **Human challenge:** The presence of entrepreneurs, inventors, researchers, and consultants is vital, along with the availability of laboratories and testing facilities. As such, it is ideal for incubators to be situated near universities. Moreover, an incubator's ability to offer essential services to its clients is a key factor, without this capability, the value and necessity of the incubator would be greatly reduced.
- **Organizational challenge:** A strong and capable management team, a well-defined technical or industrial focus for the incubator, a board of directors capable of offering sufficient support and guidance, and an efficient operational management are all critical components.
- **Education and training programs challenge:** University education systems must integrate entrepreneurship education by providing an environment that equips young people with the essential skills and

drive to engage in entrepreneurial activities, particularly in countries like Algeria, where the concept of starting a business is still in its early stages and limited in scope. (Hashem, 2022).

- **Experience and knowledge challenge:** One of the challenges faced by young entrepreneurs is the lack of practical experience and market knowledge, as the education they receive does not equip them with essential soft skills.

3. The American Experience in University Business Incubators

There are a variety of university incubator models in American society, such as (Hamed, Abdel-Fattah, Saeed, & Hawa, 2023):

- **Massachusetts Institute of Technology (MIT) Technology Research Incubator:** The Massachusetts Institute of Technology (MIT), situated in Cambridge, Massachusetts, was founded in 1861. It is a premier institution worldwide, primarily dedicated to education and research in the practical applications of science and technology. This institute has cultivated a robust partnership with industry to attain reciprocal advantages. The amalgamation of scientific inquiry with the demands of industrial advancement is a fundamental pillar of growth and development. Furthermore, it assists the university in advancing its research and strategic initiatives, so enhancing its global standing.
- **Austin Technology Incubator:** Established in 1989, this incubator maintains a strong affiliation with the University of Austin, the University of Texas, and NASA. It provides a range of services, including business advice and training programs. The incubator implements a formal graduation strategy that facilitates the annual acceptance of new enterprises. It is a non-profit organization that functions on a commercial basis and is self-sustaining. It is funded by the incubator's revenue from its properties, together with government subsidies.
- **Texas Tech University Incubator:** Founded in 1989, this incubator focuses on many domains associated with high technology and technical sectors, including clean energy and biological sciences. The incubator offers several services, including project and company

Requirements for Activating the Partnership Between University Business Incubators and the Private Sector in Algeria
The Experience of the United States and Saudi Arabia

infrastructure, management consultations, training programs, and financial assistance. This incubator is a non-profit entity that functions on a commercial basis and is self-sustaining. The Texas Tech Technology Incubator has facilitated the attainment of various objectives, including the establishment of an academic infrastructure comprising faculty and students, the assessment of novel technologies with commercial viability, the mobilization of local public and private resources, and the timely transfer of technology to markets. It also facilitates the university's direct involvement in economic development initiatives, while addressing industrial requirements to promote technology within the American community.

- **Ben Craig Center at the University of North Carolina** (Hamad & Nouh, 2022): The Ben Craig Center is a non-profit entity functioning as a business incubator for the University of North Carolina at Charlotte. It is the oldest incubator in North Carolina and among the inaugural incubators associated with the institution, stemming from the collaboration between the institution of North Carolina at Charlotte, the National Union Bank, and notable entrepreneurs. This incubator offers administrative services, facilitates communication between entrepreneurs and business professionals, provides community learning programs, delivers business development training through informal interactions with specialized experts, and conducts mentoring seminars with distinguished business leaders. The incubator's revenue derives from rental fees paid by client companies, supplemented by substantial financial backing from the University of North Carolina at Charlotte. It also acquires in-kind services rendered by board members, volunteer mentors, and professional service providers.

Based on the American experience, establishing technology incubators at universities requires strengthening their infrastructure by working on (Hassan & Al-Tahami, 2021):

- Ensuring the availability of essential services, facilities, and equipment for projects, such as laboratories and modern technological tools for training, which can also be utilized in testing and the initial execution of project prototypes.
- Providing laboratories, halls and places where lectures are given, Through it, it provides programs and training courses for project owners located within incubators.
- Providing a group of qualified human and administrative cadres to work in the incubator, and equipping them with the means and mechanisms to manage projects accepted by the incubator. They should also have the ability to train university students and graduates who possess research ideas that are suitable for incubation.
- Establish and form an administrative and organizational structure for incubators, known as the incubator's board of directors. This board must include a group of trained, qualified, and experienced members who are responsible for making all decisions regulating the incubators' workflow. The board must be headed by the incubator manager, who will oversee and monitor all incubator activities.
- Each university must allocate a specific area of its land to establish and set up the incubator, whether within the university or in another location nearby.
- Adopting all the latest and most advanced information and communications technology, which can be used in establishing and managing incubators.
- Establishing an advanced database of modern technological data and information that can be relied upon and used as guidance in establishing and operating incubators. It also helps train students and researchers on how to manage projects.
- Providing the technological infrastructure that supports incubators, including electronic and technical devices, providing modern programs, and connecting them to the Internet, with the aim of employing them to keep pace with modern trends in incubator management and their success.

***Requirements for Activating the Partnership Between University Business
Incubators and the Private Sector in Algeria
The Experience of the United States and Saudi Arabia***

Taking all legislative and legal measures and procedures related to issuing the licenses required to establish and announce incubators, and to practice their activities and businesses.

4. Partnership between university business incubators and the private sector - the Saudi experience-

- **Badir Program for Technology Incubators:** (BIAC, 2025) It is ranked among the top business incubators in the Arab world, and is affiliated with the Abdulaziz City for Science and Technology. Since its establishment in 2008, Badir has launched 8 business incubators in 7 cities across the Kingdom. The number of startups graduating from the program is estimated at more than 300, with combined revenues estimated at approximately 2.1 billion riyals between 2010 and 2018. Among the most prominent companies supported by Badir during the recent period are (Stability Lab) in the field of technology, (Foodics) in the field of information technology, (Morni) in the field of logistical support, and (Smart Control) Company.
- **SDAIA Academy:** (SDAIA, 2025) SDAIA Academy is a program of the Saudi Data and Artificial Intelligence Authority (SDAIA) in collaboration with Tuwaiq Academy. It seeks to enhance and cultivate national expertise in data and artificial intelligence through the implementation of diverse, promising initiatives in partnership with local, regional, and worldwide experts in these domains. The objective is to develop the skills and abilities required for the work market. Tuwaiq has initiated a program to develop competencies in artificial intelligence for employment opportunities in 2030.
- **Apple Developer Academy:** (Tuwaiq Developer Academy, 2025) The Apple Academy was established in Saudi Arabia through a collaboration between Apple Inc., the Saudi Federation for Cybersecurity, Programming, and Drones, represented by Tuwaiq Academy, and Princess Nourah bint Abdulrahman University. The academy's initial phase will concentrate on female programmers and developers, facilitating initiatives to empower women and advance the substantial

socioeconomic reforms associated with Vision 2030, while also enhancing women's employment rates. The academy aims to equip female entrepreneurs, developers, and aspiring designers with tools and training to launch startups and generate several job possibilities in the iOS application sector. The academy emphasizes several disciplines, including programming, commercial applications and marketing, design, and professional skills.

- **Partnership between Princess Nourah bint Abdulrahman University and the Oxford Saudi Aviation Academy:**The Princess Nourah bint Abdulrahman University Endowment Company and the Oxford Saudi Aviation Academy have formalized a partnership to collaborate on the development of specialized practical training programs in aviation, encompassing ground services, flight reservations, in-flight hospitality, and additional areas. The collaboration aims to offer cooperative training opportunities for students pursuing these disciplines. The university's campus in Riyadh will establish a permanent site for the preparation phase of the academy's pupils, commencing in November 2021.
- **College of Business at Effat University:**In 2005, Effat University partnered with the McDonough School of Business at Georgetown University in Washington, D.C. to create the Department of Business Administration. The College of Business was established in 2009 based on this foundation. In 2013, this relationship was renewed, so augmenting the capabilities of all college departments and elevating the research powers of both students and teachers (Hamad & Nouh, 2022).

5. Algeria Experience

5.1 The National Pioneering Experience of the University of M'sila:

M'sila University possesses expertise in fostering connections with the business sector by entering into agreements to undertake research for the Directorate of Urban Planning and Construction of M'sila Province. A master plan for growth and urbanization was prepared for multiple towns in the province. The project was conducted as a component of the graduation initiatives for the university's graduating students, under the collaborative oversight of faculty researchers from the Institute of Facilitation and

***Requirements for Activating the Partnership Between University Business
Incubators and the Private Sector in Algeria
The Experience of the United States and Saudi Arabia***

Civilizational Techniques, in conjunction with the technical personnel from the Directorate.

The concept of creating an incubator at M'sila University was conceived during the university's autumn event on December 12 and 13, 2018, when the university's director, Mohamed Boudiaf, granted first clearance for its establishment as a project having economic and social implications for the institution. Dr. Mir Ahmed was designated as the director, and the initiative received approval from the university's Board of Directors, with the majority of members endorsing the creation of the incubator.

The Business Incubator at M'sila University was founded pursuant to Ministerial Decision No. 182, dated May 27, 2019. It is the inaugural business incubator within a university at the national level. Other Algerian universities, like those in Blida, Ouargla, and Guelma, subsequently established their own business incubators. It is administratively associated with the National Agency for the Valorization of Research Results and Technological Development (ANVREDET), under the Directorate of Research within the Ministry of Higher Education and Scientific Research (DGRSDT). The incubator is overseen by a director designated by the university administration, and their documentation is submitted to ANVREDET. The incubator director possesses the authority to establish a project selection committee, comprising professors tasked with evaluating and endorsing diverse proposals and concepts from emerging entrepreneurs. The administration of the incubator establishes a board of directors comprising the incubator director, the university's vice president for external relations, representatives from ANVREDET, the Directorate of Industry and Mines, the National Employment Agency, and representatives from the university's economic partner institutions, among others.

Here are the statistics on the activities of the M'sila University Business Incubator:

Table 1: *Below are the statistics on the activities of the M'sila University Business Incubator*

Year	Patent files deposited with INAPI	The Number of Graduated Startups	The Number of Innovative Projects Labeled with "Label	Label Business Incubator
2019	02	0	0	
2020	13	01	0	
2021	29	04	28	01
2022	65	06	12	
2023	93	03	07 Within the framework of resolution 1275 05 Outside the framework of resolution 1275	
Total	202 of which 10 were finally delivered	17	52	The first business incubator at the national level to obtain the Business Incubator Label

Source : <https://www.univ-msila.dz>, consulté le 20/01/2015

The University of M'sila Business Incubator has formed several partnership and collaboration agreements with various stakeholders within the ecosystem. These include local authorities and various organizations and directorates that offer support to startups. Furthermore, agreements were established with successful companies that have graduated from the incubator, aimed at providing ongoing support and consultancy to the current incubated projects. A few examples of these agreements are as follows (www.univ-msila.dz):

- A partnership and collaboration agreement with the National Agency for the Valorization of Research Results and Technological Development (ANVREDET).
- A partnership and collaboration agreement with the Directorate of Industry and Mines in M'sila.

***Requirements for Activating the Partnership Between University Business
Incubators and the Private Sector in Algeria
The Experience of the United States and Saudi Arabia***

- A partnership and collaboration agreement with the "Hadhna Halib" Foundation.
- A partnership and collaboration agreement with the Industrial Equipment Maintenance (MEI) Foundation.
- A partnership and collaboration agreement with the Maghrab Pipe Foundation.
- A partnership and collaboration agreement with the Hadhna for Environment and Recycling Foundation.
- A partnership agreement with the Hadhna Solar Foundation.
- A partnership and collaboration agreement with the Qan'a Food Industries Foundation.
- A partnership and collaboration agreement with the SARL VISION-TEK Foundation.
- A partnership and collaboration agreement with the Agricultural Group in M'sila.
- A technology transfer agreement for the application of a patent between the University of M'sila and Clay Stones Bricks (CSB) Company.

6. Ways to Activate the Partnership between Algerian Universities and the Private Sector under the Umbrella of Business Incubators

The key strategies to enhance the partnership between Algerian universities and the private sector can be summarized as follows (Boufench, 2021):

- The government implementing compulsory laws that encourage the industrial sector and other economic fields to engage with university research laboratories.
- Creating mechanisms to strengthen confidence in the scientific research produced by Algerian universities, which can assist managers in overcoming the challenges and barriers to the success of their businesses.
- The public and private industrial sectors playing their role in strengthening cooperative ties with university institutions through:

- Informing university administrators about the human resource needs of the industrial sector, both in terms of quantity and quality.
- Providing university administrations with information regarding their human resource needs, both in terms of quantity and quality.
- Contributing to the funding of scientific research in universities and providing the necessary resources for research centers, faculties, and academic departments to enhance their performance.
- Allowing students to undertake field internships in economic institutions to develop their academic and professional knowledge.
- Supporting university institutions by providing the necessary funding sources for their research activities.
- Universities playing their role in activating and strengthening their relationship with industrial sector institutions by:
 - Involving representatives from the industrial sector in the various university governance boards.
 - Encouraging the establishment of various forms of collaboration between university institutions and their industrial counterparts.
 - Promoting the establishment of various forms of collaboration that align with the needs of the business environment.
- Universities and the private sector working together to enhance collaboration and ensure the implementation of their agreements through a committee made up of researchers from both institutions.
- Taking into account the local characteristics of institutions operating in the industrial sector when establishing research centers.
- Providing information about the research areas of laboratories, as well as their capabilities.
- Establishing private universities in Algeria to foster competition and improve the quality of education.
- Encouraging both local and international private sectors to invest in higher education and training in partnership with universities.

7.CONCLUSION

The topic of linking university business incubators with the private sector in Algeria is limited and recent, and it requires harnessing all

***Requirements for Activating the Partnership Between University Business
Incubators and the Private Sector in Algeria
The Experience of the United States and Saudi Arabia***

possibilities to link universities with the economic and social environment so that there is integration with various industrial or technological sectors, As a trend that allows for the investment of competencies graduating from various academic institutions, this is done through university business incubators that aim to produce knowledge by encouraging and improving innovation, establishing knowledge partnerships by linking universities with industrial institutions, and developing, improving, transferring, and marketing knowledge-based technology.

The main mission of these incubators is to employ education, research, ideas, brainpower, and investment in creating new knowledge industries. These incubators are distinguished by their ability to combine three elements: government, university, and the private sector. It also brings together in one place a center for cooperation and partnership between universities, research centers, government and industrial institutions, and private sector organizations. It provides support in several areas such as economic feasibility studies, business plan development, marketing, distribution, finance, and technological innovation. In addition to contributing to building networks of relationships and communication with potential investors and partners, which enhances the chances of success and future growth of emerging projects.

Recommendations:

- Leveraging global organizational frameworks that underpin partnership projects between universities and the private sector.
- Exploring the potential for collaboration between universities and the private sector, its methods, and applying them in Algeria in accordance with the needs of society and the directions of plans and programs.
- Developing and establishing laws that support partnerships between universities and the private sector, with detailed provisions to ensure the rights of all parties involved.
- Promoting investment from both local and international private sectors in higher education and training through partnerships with

universities, as well as forming partnerships with universities, research centers, and international business incubators.

- Leveraging various self-financing methods for private universities.

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***Requirements for Activating the Partnership Between University Business
Incubators and the Private Sector in Algeria
The Experience of the United States and Saudi Arabia***

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