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University-Based Entrepreneurial Support Programs and Institutional Mechanisms in Algeria: Strategic Roles, Operational Models, and Challenges in Advancing Academic Entrepreneurship within a Knowledge-Based Economy

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Abstract

Despite the wide range of public policies, institutional reforms, and financial support mechanisms introduced by the Algerian state to stimulate entrepreneurship within the framework of the transition toward a market economy, entrepreneurial activity has not yet reached the expected level of dynamism or sustainability. This shortfall is reflected in several structural indicators, including the limited number of newly established enterprises, high rates of business discontinuity, and the generally weak economic performance of start-ups and small enterprises. One of the main structural causes of this situation lies in the nature of entrepreneurship in Algeria, which remains largely practice-oriented and administratively driven, with insufficient integration of scientific knowledge, academic expertise, and innovation-based competencies. This limitation has become increasingly problematic in the context of the global shift toward a knowledge-based economy, where universities play a central role in generating human capital, innovation, and entrepreneurial capabilities. Against this backdrop, the present study emphasizes the strategic importance of universities as key actors within the national entrepreneurial ecosystem. It

argues that higher education institutions must move beyond their traditional functions of teaching and research to assume an active developmental role through entrepreneurial education, innovation support, and direct engagement with the socio-economic environment. Achieving this transformation requires comprehensive reforms that position entrepreneurship as a core priority within university governance, academic programs, and institutional strategies. The study seeks to analyze the evolving role of Algerian universities in supporting entrepreneurship by examining the objectives, mechanisms, and institutional models adopted to promote entrepreneurial activity. Particular attention is devoted to university-based support structures such as entrepreneurial education programs, revised curricula, mentoring and training initiatives, business incubators, and the "Entrepreneurship House" model. The analysis highlights both the potential contributions of these mechanisms and the structural challenges they face, including regulatory constraints, limited coordination with industry, and gaps in entrepreneurial culture among students and graduates. The paper concludes that strengthening university–industry linkages, enhancing entrepreneurial competencies, and developing coherent and well-resourced institutional frameworks are essential for transforming academic knowledge into sustainable entrepreneurial ventures and for improving the overall effectiveness of entrepreneurship policy in Algeria.

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Introduction

The weakness of private funding for the creation and launch of private projects, combined with the limited experience and modest expertise of the majority of entrepreneurs and project holders, has made it imperative to establish support and incubation mechanisms to accompany and assist them—especially during the early stages of enterprise creation. This process is dynamic and complex, as it is influenced by numerous external (macro) and internal (micro) factors. Consequently, it requires an economic policy characterized by stable orientations, as well as a set of factors capable of stimulating the entrepreneurial spirit, creativity, and efficiency.

In Algeria, public authorities have attempted to create such a favorable environment through a series of steps and measures, including the establishment of an appropriate legal framework that encourages investment and protects both national and foreign entrepreneurs, the fight against bureaucracy, discrimination, corruption, and bribery, and the creation of trust among entrepreneurs in order to motivate and encourage them to establish enterprises. However, the success of these measures does not depend solely on their formulation, but rather on their effective implementation on the ground through support mechanisms and centers. This has been reflected in the creation of several structures and agencies, such as the National Agency for Youth Employment Support (ANSEJ), the National Unemployment Insurance Fund (CNAC), and the National Agency for Investment Development (ANDI), among others.

From this perspective, several questions arise: What is the new role and function that the university is now required to assume? What objectives are sought through this process? And what mechanisms, strategies, and dedicated resources are adopted to achieve these goals?

To address these questions, this study proposes the following axes:

- The university's transition from a teaching–research role to an entrepreneurial economic and developmental role.
- Supporting mechanisms for entrepreneurship within the university.

First Section: The University from a Teaching–Research Role toward an Entrepreneurial Developmental Economic Role

Universities worldwide have long been recognized as a fundamental instrument of societal transformation, serving as a bridge between the outcomes of applied scientific research and industry. In this sense, they constitute a key driver of economic development, without neglecting their traditional mission of education, which remains the primary engine of social development. Since their inception, universities have faced numerous challenges, challenges that have intensified in recent decades due to rapid contemporary transformations affecting human societies. These

changes place universities in a constant position of challenge, requiring them to ensure the socio-economic well-being of the communities in which they operate.

By the mid-nineteenth century, universities underwent significant transformations with the advent of the first academic revolution, marked by the transition from institutions focused mainly on teaching to institutions increasingly oriented toward scientific research. This university model has often been mistakenly perceived as one in which researchers enjoy complete freedom in choosing their research paths, regardless of societal usefulness. In reality, researchers did not have absolute freedom in determining the nature of the knowledge they studied or the direction of their research. University activities were largely subject to state control, serving political and economic ambitions. It was only after the Second World War that academic activities evolved toward a less utilitarian perspective. A more linear vision of innovation emerged, based on the idea that basic research conducted without prior consideration of applications could nonetheless lead to significant innovations. The concept of open science and non-application-oriented research dominated until the spread of the entrepreneurial university model in the 1990s (Schaeffer, p. 90). Conversely, during the twentieth century, the second academic revolution took place, during which universities increasingly oriented themselves toward supporting economic and social development. Within this new context, universities assumed an additional essential role within society, becoming key actors in the initiation of innovation, job creation, economic growth, and sustainability (Rizzi et al., 2017, p. 26).

Etzkowitz (1983) is considered the first scholar to have used the term *entrepreneurial university* to describe universities that had become essential to regional and economic progress. According to Etzkowitz (2003), the entrepreneurial university represents a stage in the evolution of the university. This does not imply the abandonment of its traditional roles—teaching and scientific research—but rather the integration of a new role, namely entrepreneurship. The term thus refers to universities that embrace a "third mission" and contribute actively to a knowledge-based economy, serving as a link between past and present (Drioua, p. 118).

Miclea argues that a leading university is one characterized by strong innovation and sustained attention to all aspects related to it. This implies that, in addition to its classical roles of teaching and research, the university must be deeply engaged in regional and national economic and social development, and act as a vital contributor to the promotion of a knowledge-based economy (Miclea, p. 106).

From a developmental perspective, the university is viewed as a natural business incubator, providing a supportive structure for faculty members and students to initiate projects and realize their ambitions. Moreover, the entrepreneurial university clearly takes the initiative by putting knowledge into action and expanding its contribution to academic knowledge creation. The development of an entrepreneurial culture encourages faculty members to monitor the outcomes of their research in order to assess their commercial and intellectual potential. In this way, academic entrepreneurship evolves in parallel with the transition toward a knowledge-based economy (Rizzi et al., 2017, p. 266).

Institutional entrepreneurship has received strong support both from outside and within academia. Externally, governments exert pressure on universities to become more financially autonomous and to enhance their contribution to socio-economic development. At the same time, industry expects universities to produce more profitable knowledge in order to strengthen firms' economic competitiveness. Internally, students—considered clients or consumers of higher education services—demand higher quality in teaching and research, as well as greater sensitivity to their educational and social needs. Meanwhile, university departments and faculties have become increasingly aware that their status largely depends on the perceived relevance of their activities among all stakeholders.

This transformation has been accompanied by developments in the legal framework governing intellectual property, encouraging universities to protect innovations and prioritize the economic exploitation of scientific inventions. Following this model, many universities in Europe and Asia have established technology transfer offices and incubators to stimulate academic entrepreneurship, strengthen the relationship between science and innovation, regulate intellectual property, and manage contract research. They have also developed complementary legal, accounting, financial, commercial, administrative, and strategic capacities alongside advanced research competencies. The adoption and diffusion of the entrepreneurial university model have thus brought about significant societal changes, affecting the status of science within society, modes of knowledge production, and the increasing number of higher education students (Schaeffer, pp. 87–88).

With regard to the Algerian university, its missions have been reviewed in light of the experiences of universities around the world. Traditional roles have been reinterpreted and expanded in accordance with new objectives. Most universities—if not all—have reformulated their missions to incorporate the entrepreneurial model. The higher education sector in Algeria, like its counterparts worldwide, is responding to the innovative ecosystem and global competition. Notable efforts can be observed in developing universities, training students, and graduating skilled human capital in line with the requirements of the knowledge society (Ben Chouat & Kadri, 2021, p. 164).

Second Section: Means and Support Structures for Entrepreneurship within the University

In order for the university to develop and consolidate entrepreneurial thinking, it requires a set of material, human, and structural requirements that facilitate the provision of favorable conditions for progressing toward the established objectives. These means and structures can be summarized as follows:

1. Entrepreneurial Education Programs and Curricula

Entrepreneurial education has become one of the most important approaches to encouraging entrepreneurship, as it aims to strengthen the entrepreneurial orientation of university students by equipping them with knowledge and developing the competencies and skills necessary for enterprise creation. In this context, entrepreneurship has emerged as a new pedagogical concept, where training and entrepreneurship have only recently converged after having long been considered a field that could not be taught.

The teaching of the first university-level course in entrepreneurship dates back to 1947, when Myles Mace introduced it at Harvard University. However, Arasti et al. argue that the first to recognize the importance of teaching entrepreneurship was the Japanese scholar Shigeru Fujii of Kobe University in 1938 (Jabbar & Naji, 2020, p. 16).

Entrepreneurship education and its academic programs experienced significant growth during the late 1970s and early 1980s, with more than 250 universities offering various courses in this field. At that time, entrepreneurship was considered a promising area of study. By the late 1980s, however, and in light of the massive expansion of scientific knowledge, it became possible to assert that entrepreneurship had evolved into a legitimate academic discipline at all levels. Consequently, entrepreneurship has become a core objective in both academic and applied teaching. Teaching entrepreneurship is also regarded as one of the most effective ways to prepare individuals for enterprise creation. The dissemination, promotion, and integration of entrepreneurial education within society yield significant outcomes and long-term gains, with strong effects on sustainable development. This is because it creates a broad base of entrepreneurs and innovators across various fields and prepares a generation imbued with an entrepreneurial culture founded on creativity and innovation (Joudi, Al-Alwani, & Terguini, 2020, p. 6).

Regarding course titles taught within entrepreneurship programs and related departments—such as business administration, engineering, and information technology—they are numerous and vary across universities worldwide, even though they may share similar content. These titles include: Entrepreneurship, Small Business Management, New Venture Creation, Innovation and Creativity, Venture Capital, Franchising, New Product Development, Entrepreneurial Marketing, Start-Up Planning, Family Businesses, Business Strategy, Innovation Policy, and Collective Entrepreneurship (Zaraâ & Kachroud, 2018, p. 103).

Several classifications of entrepreneurship education programs have been proposed by researchers. In this regard, three international organizations—the International Management Development Network, the International Labour Organization (ILO), and the United Nations Development Programme (UNDP)—have agreed on a definition of what is known as an Entrepreneurship Development Program (EDP). This concept encompasses a set of stages in entrepreneurship development, beginning with culture, education, and training for youth, followed by business promotion and awareness, and extending to continuity and growth. It does not only cover programs for entrepreneurs, but also includes the training of instructors and supervisors (Beddiyar & Arabash, 2019, p. 16).

Based on the review of specialized literature in the field of entrepreneurship education, several researchers and authors have proposed various models and frameworks regarding the appropriate content of entrepreneurship curricula and programs in higher education institutions. Among the most prominent models in this context is the one proposed by Potter, who argues that it should serve as a guiding framework when developing any entrepreneurship program or curriculum. This model includes several key elements (Zaraâ & Kachroud, 2018, pp. 102–103):

- **The environmental element:** Any entrepreneurship curriculum must be capable of raising awareness of the surrounding environment.
- **The economic element:** Participants must be equipped with an understanding of the nature of economic actors within the environment and the new rules governing interaction among them.
- **The entrepreneur element:** Any curriculum should seek to facilitate direct interaction with entrepreneurs operating within the environment and benefit from their insights and experiences.

The Project Component

The project component refers to the enterprise itself, which constitutes the core and essence of any academic program in entrepreneurship.

The Algerian university has sought to integrate the entrepreneurial approach into its official curricula, particularly following the transition from the classical system to the LMD (Licence–Master–Doctorate) system in 2004, in line with its new philosophy based on strengthening the link between the university and the economic environment. This integration has taken various forms depending on academic disciplines and their degree of connection to entrepreneurship as both a concept and a practice. This diversity has been reflected in the content of

entrepreneurship curricula across different courses, whether within core units (implicitly), exploratory units, compulsory or elective modules, and across the first and second cycles of higher education.
Only in recent years has entrepreneurship been formally introduced as a compulsory module, especially within faculties of economics, commercial sciences, and management sciences at the second cycle (Master's level), particularly in the second year of the Master's program. The objective of this module is to strengthen the spirit of initiative, raise students' awareness of business creation, and emphasize entrepreneurship as an alternative career path to salaried employment. In other disciplines closely related to management, entrepreneurial content is integrated indirectly within standard teaching units, such as organizational sociology in the social sciences and industrial engineering in technical sciences. Following the revision of training programs in 2018, the entrepreneurship module was incorporated into most technical, human, and social science specializations as a compulsory exploratory unit at the Master's level and as an elective exploratory unit at the Licence level (Arar, Hemash, & Brahimi, 2022, p. 315).

2. Entrepreneurship House

The term *"House"* (*Maison*) has emerged and prevailed over other terms such as *"Center"* or *"Institute"*, which traditionally refer to academic and educational structures. The term *House* instead denotes a friendly, open, cooperative space that fosters values and culture, creating a favorable atmosphere for the exchange of ideas and the development of initiative. The Entrepreneurship House thus represents an appropriate tool for instilling entrepreneurial values and introducing students to the procedures required to realize their ideas, while highlighting high value-added projects that contribute to national economic development.
According to Boissin, the Entrepreneurship House first appeared in the Grenoble region of France in 2002, with the support of the French Ministry of Higher Education and Research. The experience was later transferred to several countries, including Algeria, Canada, and Brazil. It was presented at numerous study days and international conferences in countries such as Canada, Tunisia, Finland, and Sweden. Subsequently, the concept evolved and expanded at the national level in France, where a national committee was established to select projects for the creation of Entrepreneurship Houses across different regions. This committee included stakeholders from the Ministry of Higher Education and Research and the industrial sector. Initially, the committee received 19 project proposals in July 2004, from which only six were selected, distributed across the regions of Auvergne, Limousin, Nord-Pas-de-Calais, and Provence. The French Ministry of Higher Education entrusted the Grenoble Entrepreneurship House with the mission of coordinating among the various Entrepreneurship Houses by creating a network that links them and aligns their activities with different support institutions (Joudi, Al-Alwani, & Terguini, 2020, p. 10).
Algeria adopted this approach by establishing Entrepreneurship Houses in several universities, with the first launched at the University of Constantine in 2007 in partnership with Pierre Mendès France University of Grenoble. Following the convincing results achieved by this experiment, the concept of the Entrepreneurship House was generalized in 2013 across all Algerian universities and higher education schools. Today, dozens of Entrepreneurship Houses operate within Algerian universities across the national territory. Their organization is based on a joint national committee and joint local committees responsible for defining work programs and monitoring their implementation.
The joint national committee consists of the following members (Qara, Tahraoui, & Salah, 2020, pp. 97–98):

- Two representatives from the Ministry of Labour, Employment, and Social Security;
- Four representatives from the Ministry of Higher Education and Scientific Research;
- Two representatives from the National Agency for Youth Employment Support.

This committee is responsible for establishing internal regulations governing its operations and for preparing an annual report on the implementation of the program, which is submitted to the ministers responsible for labour, employment, social security, and higher education.
At the level of each academic institution, the joint local committee includes:

- One representative of the provincial employment directorate;
- Two representatives from the local branch of the National Agency for Youth Employment Support;
- Two representatives from the concerned university.

These local committees are responsible for preparing annual reports and submitting them to the national committee.
All Entrepreneurship Houses within Algerian universities share the same mission and objectives. Their main functions include (Arar, Hemash, & Brahimi, 2022, p. 317):

- **Awareness-raising:** This function aims to help students better identify their position and entrepreneurial potential by simulating creativity, encouraging initiative, and providing information about the entrepreneurial profession through seminars, round tables, and similar activities.
- **Training:** This involves equipping students with specific skills in project management and small enterprise creation, teaching them how to develop business plans, and informing them about support and funding structures.

- **Advisory, guidance, and support services:** Entrepreneurship Houses provide these services through collaboration with the National Agency for Entrepreneurship Support and Development, offering technical assistance for project creation and committing to providing the necessary support to ensure successful outcomes.

3. Business Incubators

University business incubators constitute an integrated system of facilities, mechanisms, programs, activities, services, and consultancy provided by universities for the benefit of individuals, enterprises, project holders, and students. These incubators enable beneficiaries to exercise creativity, implement innovations, establish small and medium-sized enterprises, and manage, develop, and expand them (Al-Sajdi et al., 2000, p. 137).

Over the past three decades, university business incubators have emerged as major contributors to economic growth. As a result, they are widely regarded as effective tools for job creation, industrial start-ups, and industrial revitalization. They have thus become one of the fundamental pillars of high-technology industrial development and an integral part of an ecosystem composed of key partners such as industrial clusters, colleges, research laboratories, banks, and investors (McAdam & Miller, 2016, p. 2).

University business incubators have become an effective tool for economic development, as they seek to achieve a set of objectives, including the following:

1. Supporting creators and innovators and transforming their ideas and projects from mere laboratory prototypes into production and investment ventures, by providing services, support, and scientific assistance to innovators in order to obtain products that generate added value within the market economy.
2. Developing new ideas aimed at creating innovative and creative ventures.
3. Providing support and advisory services to incubator beneficiaries.
4. Producing successful enterprises capable of managing their financial programs and ensuring sustainability and continuity.
5. Offering services and facilities required by emerging entrepreneurial projects.
6. Providing technical services to beneficiaries, such as cooperation and coordination programs.
7. Delivering a wide range of administrative, training, marketing, and consultancy services.

In Algeria, pursuant to Joint Ministerial Decree No. 182 dated 27 May 2019, the first university business incubators were established at the Universities of M'sila, Blida, Ouargla, and Guelma, among others. Administratively, these incubators operate under the supervision of the National Agency for the Valorization of Research Results and Technological Development (ANVREDET), affiliated with the Directorate of Research within the Ministry of Higher Education and Scientific Research (DGRSDT). Each incubator is managed by a director appointed by the university administration, whose file is subsequently submitted to the National Agency for the Valorization of Research Results and Technological Development (University of M'sila Business Incubator, 2022).

On 25 September 2022, pursuant to Decree No. 1244, a National Coordinating Committee for the Monitoring of Innovation and University Business Incubators was established, operating under the direct supervision and authority of the Minister of Higher Education and Scientific Research.

As of February 2022, more than 38 university business incubators had been established and awarded official labels, with many others under evaluation—particularly following progress in developing an appropriate and encouraging regulatory framework for their creation, especially within the university environment, which is considered the most suitable setting. Among their main objectives are:

1. Supporting creators and innovators and transforming their ideas and projects from laboratory models into production and investment activities.
2. Providing opportunities for students and faculty members to access the world of economics and business through the mechanisms offered by incubators.
3. Investing in and valorizing the outcomes of university education and research and channeling them toward development objectives.

Conclusion

The university has long been, and continues to be, a driving force of development in advanced societies. Its quality is measured by the quality of its human and developmental outputs that are tangibly reflected within society. As for the Algerian university, and in light of the growing contemporary pressures and challenges, it still bears a significant responsibility to contribute to the economic and social well-being of society. In response to these challenges, the university is required to develop its strategies as an effective instrument for achieving societal transformation. This can be accomplished through the modernization of educational and learning programs and curricula, as well as through the strengthening of supportive and facilitating structures such as Entrepreneurship Houses and business incubators. Although these mechanisms are still at an embryonic stage, they constitute a promising foundation for embedding entrepreneurship within the university system and enhancing its role in sustainable development.

Ethical Considerations

This study is based exclusively on secondary data sources, policy documents, institutional reports, and conceptual analysis. It does not involve human participants, personal data, surveys, or experimental procedures. Consequently, ethical approval was not required. The research adheres to accepted principles of academic integrity, transparency, and responsible scholarship.

Author Contributions

- **Laid Salakdji**: Conceptualization of the study, research design, analysis, and drafting of the manuscript.
- **Amel Labidi**: Literature review, theoretical framework development, and critical revision of the manuscript.
- **Laid Ouarem**: Data collection, institutional analysis, and contribution to methodology and discussion sections.
- **Amara Boudjemaa**: Contextual analysis of Algerian entrepreneurship policies and university mechanisms, manuscript editing.
- **Hamza Djahnit**: Synthesis of findings, conclusion drafting, and final proofreading.

All authors have read and approved the final version of the manuscript and agree to be accountable for its content.

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Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this article. The research was conducted independently and without any financial or institutional influence that could affect its objectivity.

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