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THE EMERGENCE OF ENTREPRENEURIAL UNIVERSITY IN ALGERIA: CHALLENGES AND PROSPECTS

Abstract: This article analyses the transition process towards an entrepreneurial university that has been underway in Algeria. After discussing the measures implemented by the public authorities, it reviews the current state of the entrepreneurial ecosystem by analyzing the contextual factors that hinder students in their process of setting up businesses. This is the objective of the various structures created and mobilised. This analysis highlights the role of the various actors involved in this complex, interconnected environment. Following a descriptive and analytical analysis, the study concludes that the transition is a long process and that Algeria is only at the very early stages. Its success depends on several determining factors, including raising awareness of entrepreneurial culture and reforming the market-oriented higher education training system.

Keywords: entrepreneurial university, student entrepreneurship, innovation, entrepreneurial ecosystem, stakeholders.

Introduction

Nowadays, universities are increasingly adopting the role of entrepreneurial actors, demonstrating their commitment to actively contributing to economic and social development through the creation of wealth and added value. This emerging role coincides with a series of socio-economic and political transformations that Algeria has experienced in recent decades.¹

Consequently, universities are compelled to adapt to this evolving context and to keep pace with developments in the labour market. However, the latter is characterized by significant structural weaknesses particularly in term of job supply balance as it is unable to absorb the large number of unemployed graduates whose skills do not align with labour market requirements.

The complexity of the issue of the employment situation in Algeria, evolving within an uncertain economic environment, warrants the attention of the public authorities in order to contribute, at least partially, to its resolution. In this regard, Algeria has adopted a national strategy for promoting business creation, so as to bridge the gap between universities and the labour market. To this end, entrepreneurship education has been introduced in higher education institutions, with the objective of providing grant universities a new status as ‘entrepreneurial universities’.

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¹ **Boutillier, S., D. Uzunidis.** L’entrepreneur schumpétérien, *La Pensée*, vol. 3 (375), 2013, pp. 97–109. <https://doi.org/10.3917/lp.375.0097>

The modern university is thus adopting new missions that go beyond its traditional² functions of teaching and research, by promoting scientific research, innovation, and collaboration with industry, including the commercialisation of research outputs and the development of training programmes aligned with economic needs. To achieve these objectives, universities seek to engage a range of stakeholders,³ within an entrepreneurial ecosystem comprising multiple actors.

Indeed, research suggests that the development of entrepreneurship within universities depends strongly on political commitment. Moreover, this status is reflected in the involvement of universities in entrepreneurship training at different levels of study (bachelor's, master's and doctoral programmes), particularly at the level of the faculties of economics, business and management sciences. To support this policy, Algeria has established structures dedicated to training, supporting, and mentoring students, with the aim of fostering employability and reducing unemployment among graduates.

1. Review of Literature

Entrepreneurial university is a concept understood as an interconnected system that fulfils both its traditional missions of teaching and research and its new, innovative functions related to innovation, commercialisation of research results, and evolving forms of collaboration between universities and industry.⁴ Its aim is to support students who wish to become entrepreneurs by enabling them to effectively use their research outputs.⁵ The development of this concept and strategy has become a central factor contributing to the evolution of higher education institutions in general, and thereby strengthening universities' role in regional socio-economic development in particular. Furthermore, this is still a topic of investigation and extensive research in order to clarify and analyse it, whilst emphasising the importance of contextualising the environment in which universities operate.

However, these research studies remain fragmented across numerous strands, focusing primarily on academic entrepreneurship as the foundation of innovation and business creation, the commercialisation of university research results, the triple helix model (university–industry–government),⁶ etc.

Entrepreneurial education enables learners to develop the capacity to analyse causal relationships between phenomena and to identify correlations within a framework of shared stakeholder visions. It also facilitates the development of social connections that foster creativity and innovation within networks.

Entrepreneurship education for students — referred to by E.M. Hernandez⁷ as the 'general public' — can positively influence entrepreneurial motivation. A second category of learners described as 'potential creators', includes students who possess entrepreneurial ideas and attributes that may enable them to become future entrepreneurs capable of engaging in a long-term entrepreneurial process.

The relationships between universities and entrepreneurship, reflected in the growing number of courses and support structures dedicated to entrepreneurship, have developed in recent years in line with national policy framework. However, its primary objective remains job creation through graduate

² **Mancer, I.** L'université algérienne et la transition vers le paradigme entrepreneurial : un diagnostic. *Revue Innovation*, vol. 11 (2), 2021, pp. 439–453. <https://doi.org/10.53999/2297-011-002-026>

³ **Chidiac, E.** Le rôle des universités dans le développement de l'entrepreneuriat : cas de l'université Saint-Joseph de Beyrouth. In *Actes de la deuxième conférence internationale sur la Francophonie économique: L'entrepreneuriat et l'insertion professionnelle des jeunes et des femmes en Afrique francophone*, 2020, pp. 172–181. Available at: https://ofe.umontreal.ca/fileadmin/ofe/documents/Actes/Conf_OFE_CIRPEC_2020/Texte12_Chidiac.pdf

⁴ **Salun, M., K. Zaslavska, D. Zmicerevska.** Entrepreneurial Universities: Literature Review. *Economics of Development*, vol. 18 (3), 2019, pp. 12–18. [https://doi.org/10.21511/ed.18\(3\).2019.02](https://doi.org/10.21511/ed.18(3).2019.02)

⁵ **Coskun, H., C. Popescu, D. Samaraz, A. Tabak, B. Akkaya.** Entrepreneurial University Concept Review from the Perspective of Academicians: A Mixed Method Research Analysis. *Sustainability*, vol. 14 (16), 10110, 2022. <https://doi.org/10.3390/su141610110>

⁶ **Rothaermel, F., Sh. Agung, L. Jiang.** University Entrepreneurship: A Taxonomy of the Literature. *Industrial and Corporate Change*, vol. 16 (4), 2007, pp. 691–791. <https://doi.org/10.1093/icc/dtm023>

⁷ **Hernandez, E.M.** *Le processus entrepreneurial: vers un modèle stratégique d'entrepreneuriat*. Éditions L'Harmattan, 1999.

integration into new forms of work that foster creativity and innovation. Nevertheless, embedding entrepreneurship within universities presents challenges for both educators and students.

Business creation is a process that begins with generating an idea which extends through market research, business plan development, and the selection of a legal status, culminating in administrative procedures specific to each country. This economic inclusion presents a challenge to entrepreneurs aware of this complex journey towards self-employment. To provide solutions to the ever-increasing unemployment in Algeria, these university training programmes are flourishing to meet this specific need. Innovation lies at the heart of the new status of the ‘innovative and cross-disciplinary’⁸ entrepreneurial university, with the aim of meeting the needs of the labour market. Thanks to innovation, according to Schumpeter, a specific viable project can emerge through the logic of creative destruction, enabling the emergence of new competitive products on the market.

To this end, the entrepreneurial university aims to foster a culture of entrepreneurship among a wide population of students who, like these student entrepreneurs, will become capable of taking risks.

Given its fundamental role in knowledge economy, the university is naturally inclined to cooperate with the business world. Businesses are compelled to innovate in order to remain competitive, leveraging the results of innovative university research to bring new products to the market.⁹ Consequently, graduates are expected to act as both researchers and job creators; this is achieved not only through the introduction of entrepreneurial management into various academic disciplines but mainly through the exploitation and transformation of research findings into innovative, wealth-generating projects.¹⁰

Entrepreneurship Teaching in Algerian Universities

Within universities, the integration of entrepreneurship into the curriculum is certainly an important step. However, the effectiveness of such teaching largely depends on the adopted pedagogical approaches, with a growing emphasis on methods that promote inductive reasoning and active learning, as opposed to traditional top-down knowledge transmission.¹¹ In this context, training programmes are designed to complement existing curricula by providing greater specialisation and precision for project leaders. Nevertheless, a fundamental question remains: are these programmes capable of producing genuinely successful entrepreneurs, or do they merely reproduce conventional forms of pedagogical instruction? This issue underpins a broader debate regarding the nature of entrepreneurship education and the question is whether entrepreneurship can in fact be taught.

The approach that treats entrepreneurship as a discipline considers that it can be learnt by students within universities: ‘the entrepreneurial spirit is not innate or given, but is built’.¹² Moreover, for C. Léger-Jarniou¹³, the teaching of entrepreneurship refers to the development of the entrepreneurial spirit through its instruction to students.

The primary objective of integrating the module of entrepreneurship into university teaching is to reveal students’ entrepreneurial potential and to strengthen their motivation to embark on business creation. Furthermore, this teaching has a dual impact: in addition to the effect mentioned on students,

⁸ **Dif, A.** *L’accompagnement de l’entrepreneuriat à l’université : de l’intention à l’incubation, cas des universités algériennes.* Thèse de Doctorat en Science de Gestion, Université Mohamed Khider Biskra, 2022.

⁹ **Bekioua, F., W. Hafi, I. Lamaraag.** À propos de la relation université-environnement économique – Quelle interface université-entreprise. *La revue des sciences commerciales*, vol. 16 (2), 2017, pp. 42–55. Available at: <https://asjp.cerist.dz/en/article/35877>

¹⁰ **Schulte, P.** The Entrepreneurial University: A Strategy for Institutional Development. *Higher Education in Europe*, vol. 29 (26), 2004, pp. 187–191. <http://doi.org/10.1080/0379772042000234811>

¹¹ **Chambard, O.** La promotion de l’entrepreneuriat dans l’enseignement supérieur – les enjeux d’une création lexicale, les langues du politique, *Mots. Les langages du politique*, 102, 2013. <https://doi.org/10.4000/mots.21374>

¹² **Kouraiche, N.** Promotion de l’Entrepreneuriat dans l’Enseignement supérieur en Algérie, *Revue académique des études humaines et sociales - A/ Sciences économiques et droit*, vol. 10 (2), 2018, pp. 40–50. Available at: <https://asjp.cerist.dz/en/article/74361>

¹³ **Léger-Jarniou, C.** Développer la culture entrepreneuriale chez les jeunes, *Revue française de gestion*, vol. 5 (185), 2008, pp. 161-174. <https://doi.org/10.3166/rfg.185.161-174>

it transforms the university into a more competent and innovative institution with a significant societal impact. This integration takes various forms, interdisciplinary pedagogical approaches, thereby fostering an entrepreneurial mindset and developing practical skills¹⁴ that enable students to engage in a long and complex entrepreneurial learning process (problem-based learning, case studies, experimentation).

To cover all disciplines, there are several overarching models that reflect the nature of each country's national strategy, ranging from the incorporation of entrepreneurial elements into an existing curriculum, as mentioned earlier, to integrating entrepreneurship into the education system to foster an entrepreneurial environment among children, and finally the entrepreneurial project-based approach.¹⁵

It is worth mentioning that entrepreneurship may be referred to by other terms related to creativity, innovation, and design thinking, while sharing the same objectives. Moreover, this interdisciplinary collaboration requires an ecosystem involving vocational and entrepreneurship education to ensure this transition. Experiential learning based on learning cycles combining engagement, exploration, explanation, elaboration, and evaluation (the 5E model) enables teaching to be linked to real-world issues, particularly in the field of social and technological entrepreneurship.¹⁶ Similarly, exposure to successful entrepreneurs fosters students' entrepreneurial intentions.¹⁷

In this vein, the integration of entrepreneurship into teaching aims to enrich research by promoting academic work that enhances students' skills, even if the impact on pure knowledge is sometimes limited,¹⁸ through the creation of industry partnerships. However, new impact indicators incorporate the emotional dimension, mindset shift, and the transition from intention to action.¹⁹

According to A. Fayolle,²⁰ this body of teaching delivered to students includes awareness-raising, training and support activities. Furthermore, he specifies that entrepreneurship depends not only on individual factors but also on environmental ones. Moreover, it is not limited to entrepreneurial spirit but also encompasses entrepreneurial behaviour and the context in which it operates. Accordingly, analysing entrepreneurial intention among students is a complex issue due to the multiplicity of its components, which combine several factors²¹ directly linked to the students themselves—referred to as motivational factors (personal needs, personality traits, etc.), alongside other factors reflecting their individual background (family, education, etc.). Additional factors, more closely linked to the broader environment in which the students operate, are grouped under the term 'contextual factors' (economic, social, and political environment, etc.). This state of fact confirms the complexity of teaching entrepreneurship, which remains subject to various constraints.

¹⁴ **Fassbender, U., J. Papenbrock, M. Pilz.** Teaching Entrepreneurship To Life-Science Students Through Problem-Based Learning. *The International Journal of Management Education*, vol. 20 (3), 100685, 2022. <https://doi.org/10.1016/j.ijme.2022.100685>

¹⁵ **Yu, W., Z. Zheng, J. He.** Integrating Entrepreneurial Education into STEM Education: A Systematic Review. *Research in Science Education*, 2024. Available at: <https://doi.org/10.1007/s11165-024-10193-2>

¹⁶ **Fayolle, A., W. Lamine, S. Mian, P. Phan.** Effective Models of Science, Technology, and Engineering Entrepreneurship Education: Current and Future Research. *The Journal of Technology Transfer*, vol. 46 (2), 2021, pp. 277–287. <https://doi.org/10.1007/s10961-020-09789-3>

¹⁷ **Boldureanu, G., A. Ionescu, A. Bercu, M. Bedrule-Grigoruță, D. Boldureanu.** Entrepreneurship Education Through Successful Entrepreneurial Models in Higher Education Institutions. *Sustainability*, vol. 12 (3), 1267, 2020. <https://doi.org/10.3390/su12031267>

¹⁸ **Carpenter, A., R. Wilson, R.** A Systematic Review Looking at the Effect of Entrepreneurship Education on Higher Education Students. *The International Journal of Management Education*, vol. 20(2), 100541, 2022. <https://doi.org/10.1016/j.ijme.2021.100541>

¹⁹ **Nabi, G., F. Liñán, A. Fayolle, N. Krueger, A. Walmsley.** The Impact of Entrepreneurship Education in Higher Education: A Systematic Review and Research Agenda. *Academy of Management Learning and Education*, vol.16, 2017, pp. 277–299. <https://doi.org/10.5465/amle.2015.0026>

²⁰ **Fayolle, A.** *Les enjeux du développement de l'enseignement de l'entrepreneuriat en France*, Rapport d'étude réalisé pour la Direction de la Technologie, Ministère de la Recherche, 2001.

²¹ **Xanthopoulou, P., A. Sahinidis.** Students' Entrepreneurial Intention and Its Influencing Factors: A Systematic Literature Review. *Administrative Sciences*, vol. 14 (5), 98, 2024. <https://doi.org/10.3390/admsci14050098>

Although Algerian universities teaching methods remain theory-oriented or theory-dominated, to the detriment of practical skills development, there is a strong need for support for students in their projects. Indeed, research on this issue has shown that the teaching of entrepreneurship within Algerian universities is increasingly moving towards more specialised and individualised training methods within the various structures created for this purpose, primarily incubators and CDEs.

2. Methodology

The purpose of this article is to analyze the measures adopted by the Algerian government to foster an entrepreneurial spirit within universities by complementing their role in knowledge transfer with that of wealth creation.

To this end, this research is structured in two parts. The first examines the role of entrepreneurship education, focusing on the factors influencing the transition toward an entrepreneurial university in Algeria. The second analyzes the decisions taken by public authorities to promote student entrepreneurship with the aim of identifying the challenges and highlighting the constraints inherent in the entrepreneurial ecosystem in Algeria.

To conduct this research, we have adopted an approach that is both descriptive and analytical, which allows us to examine a complex phenomenon that is rapidly evolving. This ecosystem is governed by a legislative framework and supported by administrative structures. The purpose of this choice is to clarify the concepts involved and to study the mechanisms and role of the entrepreneurial university in the socioeconomic sphere based on secondary data.

The purpose of the research is to assess the current state of the ecosystem in Algeria and evaluate its effectiveness, in order to identify its strengths and weaknesses with a view to formulate recommendations. It draws on previous studies and official statements from various officials responsible for the interfaces established between the Ministry of Higher Education, incubators, CDEs, and others. The collection of statistical data allowed us to review the efforts made and the remaining steps needed to successfully complete this complex process. The originality of this work lies in the data presented and analyzed in this article.

3. The Determinants of the Transition to an Entrepreneurial University in Algeria

The shift in the university's mission involves a long and complex process that brings together various stakeholders in this new initiative aimed at achieving new objectives. To this end, higher education institutions are expected to undergo profound changes to their structure and culture.

This transition results from the interaction between external and internal factors. Indeed, the pillars of the transition's success lie on the development of new innovative ideas, through research and their commercialization. A new entrepreneurial vision and culture within universities remain the driving force behind this constructive process of future innovative projects that create added value. This entrepreneurial vision requires the involvement of the various stakeholders that make up the entrepreneurial ecosystem.

The transition to an entrepreneurial university involves several stages, each engaging specific stakeholders and key organisational components. At each stage, various internal and external stakeholders play a decisive role in the success of the transformation process.

This process essentially involves integrating entrepreneurship into the curriculum (teaching and research) across various disciplines in order to foster an entrepreneurial spirit among students.²² By bridging the gap between scientific research, the needs of businesses and society, the university contributes in shaping an innovative, wealth-creating economy.²³

²² **Klucznik-Törő, A.** The New Progression Model of Entrepreneurial Education—Guideline for the Development of an Entrepreneurial University with a Sustainability Approach. *Sustainability*, vol. 13 (20), 11243, 2021. <https://doi.org/10.3390/su132011243>

²³ **Belitski, M., J. Sikorski.** Three Steps for Universities to Become Entrepreneurial: A Case Study of Entrepreneurial Process and Dynamic Capabilities. *The Journal of Technology Transfer*, vol. 49, 2024 pp. 2035-2055. <https://doi.org/10.1007/s10961-024-10099-1>

To enable students to bring their projects to fruition, the university, through its students' entrepreneurship support structures, establishes links with the industrial sector in a collaborative spirit.²⁴ The success of these initiatives depends on the existence of an entrepreneurial ecosystem that enables the development of partnerships of commercialisation of ideas. However, it is essential to ensure that all these measures and steps are evaluated in order to identify weaknesses and imbalances.²⁵ The establishment of indicators and evaluation strategies aims to inform adaptive measures for the actions undertaken, ensuring a long-term viability of projects and a sustainability that strengthens the robustness of the entrepreneurial ecosystem as a whole. The involvement of the various stakeholders throughout the stages of the transition to an entrepreneurial university is summarized in the figure below.

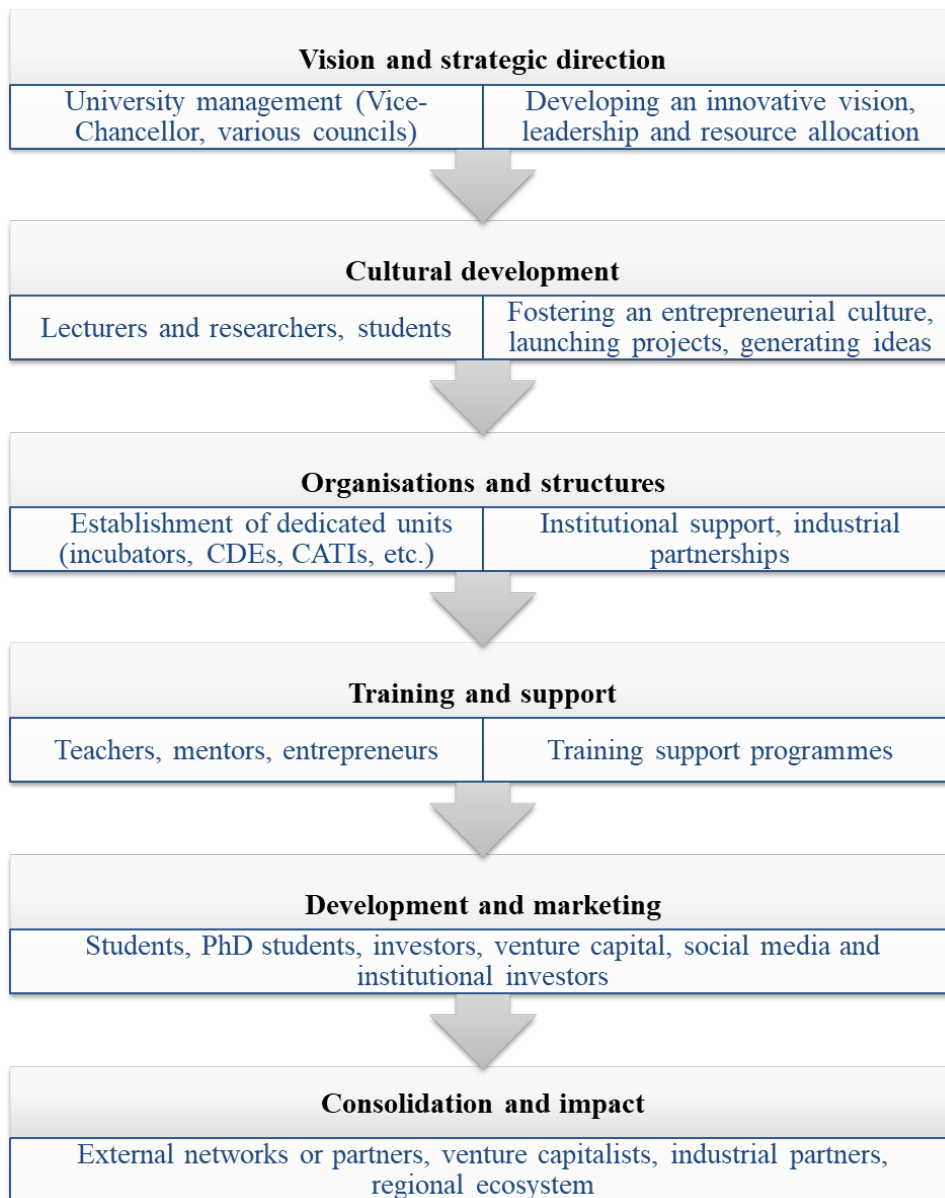


Figure 1. Stages of the Process and Stakeholders Involved

Source: compiled by the author

²⁴ **Etzkowitz, H., J. Dzisah, M. Clouser.** Shaping the entrepreneurial university: Two experiments and a proposal for innovation in higher education. *Industry and Higher Education*, vol. 36 (1), 2021, pp. 3-12. <https://doi.org/10.1177/0950422221993421>

²⁵ **Gianiodis, P., W. Meek.** Entrepreneurial education for the entrepreneurial university: A stakeholder perspective. *The Journal of Technology Transfer*, vol. 45, 2020, pp. 1167-1195. <https://doi.org/10.1007/s10961-019-09742-z>

3.1. The Entrepreneurial University in Algeria: An Ongoing Project

The entrepreneurial university in Algeria is a rapidly evolving concept, characterised by a transition from a traditional university model to one focused on innovation, business creation and integration with the socio-economic ecosystem. Algeria is gradually moving towards the entrepreneurial university. However, this ongoing process remains long-term and faces several structural and contextual challenges.

In Algeria, the entrepreneurial university is an objective aimed at transforming higher education institutions into drivers of innovation, business creation and socio-economic development. Faced with the challenges of the labour market and the need to diversify the economy, Algerian universities are seeking to integrate entrepreneurship into their missions, programmes and support structures.

Algeria possesses a considerable potential, stemming both from its natural resources' wealth and its relatively well-educated young population. By significantly improving its entrepreneurial ecosystem, its economy could increasingly resemble that of emerging economies, in addition to revenues generated by the hydrocarbons sector.

3.2. Measures Taken by the Algerian Government to Promote Student Entrepreneurship

The government has implemented several measures to promote student entrepreneurship within Algerian universities. As part of its program that aims at creating jobs and wealth, the following initiatives have been introduced:

- All Algerian universities have been equipped with entrepreneurship development centers (EDCs). Their main tasks include raising students' awareness of entrepreneurship through information days and sharing success stories, as well as providing training programs and practices (a 15-day program focusing on both theory and practice, ranging from entrepreneurship knowledge to business development strategies), enabling students to be supported and guided throughout their journey.

- A support and guidance platform (Moukawil.dz) has been established for student entrepreneurs, to simplify administrative tasks through a detailed guide outlining the required steps. Furthermore, this online platform provides a documentary database containing the necessary forms for administrative process, as well as regular updates on regulatory and legal developments. It also allows student entrepreneurs to benefit from a more flexible academic schedule so they that they can focus on developing their projects. This is achieved through the creation of the student-entrepreneur status, which enables students to undertake final-year projects (startups or micro-enterprises) in place of work placements and dissertations.

University incubators address the real needs of socio-economic operators by developing feasible technical solutions. These projects are supported through a mentoring and personalised coaching to project leaders whilst integrating them into the entrepreneurial ecosystem to establish initial connections with the wider business community.

Decree 1275 of 27 September 2022, concerning the creation of start-up projects and patent-based dissertations has been amended and supplemented by Decree 008, signed on 23 February 2025, which is broader in scope and concerns the preparation of business projects, introducing the role of the CDE (Centre for Economic Development) to cover all forms of wealth-creating enterprises. Job creation by university students is thus a main objective of this framework, while emphasising the importance of innovation in generating added value within the national economy. Being incubated within a university incubator allows the project leader to benefit from several financial and administrative advantages that transform a simple idea into a concrete, marketable, and profitable project.

In Algeria, there are incentive tools such as the public accelerator Algeria Venture, created by Executive Decree N°20-356 in November 2020; university spin-offs; private business accelerators; as well as incubators that can evolve into accelerators. Indeed, in order to support a project to come to fruition, an incubator takes on such a project at an early stage, where the business plan has not yet been finalised, the business model is not yet fully developed, and the minimum viable product is not yet market-ready. Unlike an incubator, an accelerator steps in after this stage to help these young entrepreneurs develop their start-ups and move into the growth phase by seeking financing or raising funds (through business

angels, specialist organisations or by participating in challenges offering funding opportunities), with the potential to expand their market and turnover.

Next to Sidi Abdellah Cyberpark (2010), the incubators in Ouargla (2012), Oran and Batna (2013), Algerian universities have experienced a significant increase in the number of university incubators since 2020, resulting from the creation of the Ministry for the Knowledge Economy and Start-ups, which expanded in 2023 to include micro-enterprises. This remarkable development reflects the importance attached to generating economic growth outside the hydrocarbons sector. This momentum demonstrates a desire to move away from dependence on oil revenues and to set a course for a development policy based on economic diversification.

Moreover, Executive Decree No. 21-170 of 16 Ramadhan 1442, corresponding to 28 April 2021, setting out the conditions and procedures for granting tax incentives to companies holding the ‘start-up’ or ‘incubator’ label, has supported the implementation of this strategy.

Data on start-ups provided by members of the National Commission for the Coordination and Monitoring of Innovation and University Incubators (CNCSIU), established on 22 September 2022 to implement Decree 1275 of 27 September 2022, provide an overview of the state of the entrepreneurial ecosystem in Algeria, including its various interfaces created specifically to support and complement the work of incubators.

As a reminder, the entrepreneurial ecosystem in Algeria mainly consists of incubators, CDEs, CATIs (intellectual and industrial property protection, technology watch centres) and BLEU liaison offices (networking structures).

Table 1. The Structures Established to Promote University Entrepreneurship in Algeria.

	2022/2023	2024	October 2025
Incubators	98	118	124
Centre for Entrepreneurship Development	102	107	117
Technology and Innovation Support Centre	73	91	111
Artificial Intelligence Hub	23	55	78
University-Industry Liaison Office	62	88	117

Source: National Commission for the Coordination and Monitoring of Innovation and University Incubators (CNCSIU).

The increase in the number of incubators between 2022 and 2025 is highly significant, rising from 98 to 124 incubators over a short period, in contrast to the trend observed prior to 2020. This increase is accompanied by an increase in the number of accredited incubators, from 17 in 2022 to 94 in 2025. This dynamic has resulted in 1,397 innovative project labels, compared with only 405 in 2022, as well as 156 start-up labels, compared with just 12 in 2022. The number of university accelerators reached 76 by 2025.

The table also shows that, despite the modest growth in the number of the CDEs created — which were in fact an extension of the former entrepreneurship centres — the number of businesses created within this structure has almost doubled, rising from 1700 in 2022 to 2300 in 2025. Similarly, regarding the CATIs, there has been a significant increase in the patent applications filed, rising from 1,408 in 2022 to 3,440 in 2025. Furthermore, in order to facilitate the creation of incubators, several organisations have been involved in this process, such as the National Agency for the Valorisation of Research and Technological Development Results (ANVREDET) which has been in existence since 1998 under Executive

Decree No. 98-137 and the National Agency for the Promotion and Development of Technology Parks (ANTP), established in 2004 by Executive Decree No. 04-91.

3.3. Challenges and Constraints of the Entrepreneurial Ecosystem in Algeria

Despite the efforts made by the Algerian authorities and their strong ambition to bring about changes that promote entrepreneurship, innovation and the entrepreneurial university in general, a number of challenges and constraints have been identified. One of the most significant constraints to the development of entrepreneurship and innovation is the lack of an entrepreneurial culture within our society. Aware of this issue, public authorities are focusing on raising awareness among students in university settings, with a view to instilling an understanding of the benefits of business creation in terms of jobs and wealth.

Additionally, a lack of skills among trainers responsible for providing support for project leaders is also an issue. To address this gap, several training sessions for trainers within different support structures have been organised. However, the outcomes of these initiatives cannot be assessed immediately. As part of its strategy to digitise various socio-economic sectors, Algeria has invested in technological infrastructure. Nevertheless, this digital infrastructure does not yet meet requirements (in terms of both quality and quantity), particularly in terms of quality of the internet connection network. In addition, there is a lack of genuine link between university researchers and the industrial sector, which limits opportunities for the commercialization of research products.

The legal and regulatory framework is evolving within an environment dominated by the informal sector, clientelism and corrupt practices. The quality of governance, impacted by a lack of transparency, further complicates matters for young entrepreneurs attempting to take their first steps in this field. Despite the numerous measures taken by the government, this environment does not encourage the creation of businesses. Indeed, the business climate, as presented by Doing Business in its latest statistics — which rank Algeria 157th overall, with a ranking of 152nd for starting a business and 181st for obtaining bank loans — reflects a complex and weak entrepreneurial ecosystem that is increasingly uncertain and disadvantageous for entrepreneurs.

There are several public funding schemes in Algeria, such as NESDA, which replaced ANSEJ (established in 1996), ANGEM (established in 2004) and AAPI (which replaced ANDI, established in 2006). These schemes enable SMEs to access subsidized bank loans, whilst also benefiting from tax and para-fiscal incentives. In addition to these schemes, the Ministry has established funding structures dedicated to start-ups, such as the Algerian Startup Fund (ASF) for venture capital, or public accelerators such as Algeria Venture, to provide specialised financial support for certified start-ups. After a long journey undertaken by the promoters of innovative projects, they are now faced with the formal financing arrangements for their projects.

Traditional banks are not equipped to finance this type of project. The schemes specifically designed for start-ups, mentioned above, have not proved popular. Faced with this situation, certified start-ups struggle when they exhaust their members' savings whilst building the prototype, particularly when adequate technical facilities are required. To reach the operational phase of their activities, they often turn to friends and family networks to supplement their funding and, in some cases, even to informal lenders. In fact, despite the introduction of crowdfunding in Algeria through the 2020 Supplementary Finance Act and the launch of the national platform Crowdfunding.dz in 2023, its use remains limited or even negligible, hampered by administrative challenges.

Conclusion

The global development of the entrepreneurial university has made the transition from the traditional university to this innovative paradigm an end in itself. Indeed, the search for solutions to unemployment that can help alleviate social vulnerability, particularly among young people, remains a concern for many economies around the world, regardless of their level of development. The literature on this subject is extensive and deserves to be explored in order to learn lessons from various successful and

failed experiences. The value-added approach in an economy based on innovation and entrepreneurial spirit no longer needs to be demonstrated.

The development of an entrepreneurial university depends on several factors that make up the entrepreneurial ecosystem, which reflects the state of health of the economy and not only that of stakeholders directly involved with the university, such as students or even industrial partners. These various stakeholders, and many others, operate and cooperate within an external environment that must be conducive to entrepreneurship in general. However, Algeria has embarked on this drive to foster an entrepreneurial spirit without establishing other essential pillars needed to support these young university graduates, who are key players in this development and this dynamic. Despite all the initiatives and structures that have been established, the tangible results on the ground do not reflect the impressive figures reported by these organisations. There is a dysfunction that needs to be addressed in order to avoid bottlenecks and the loss of these young people, who embody hope and motivation for the creation of wealth for the country.

Genuine collaboration between the various sectors, supported by widespread training for those involved, is the fundamental element for the success of this initiative. This has been expressed through several actions that have demonstrated some progress in this area but which still need to be evaluated. In conclusion, we can state that the transition process has begun. At this stage, can we speak of an 'entrepreneurial university' in Algeria whilst overlooking the fundamental reform of the higher education system, which will ultimately ensure its suitability and integration into the global market?

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