



*The Role of the National Agency for the Valorization of Research and  
Technological Development in Supporting and Accompanying  
Innovation in Start-ups*

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*Abstract*

This study aims to explore the National Agency for the Valorization of Research and Technological Development (ANVREDET) as a key institution supporting innovation and developing collaboration between the higher education and scientific research sector and Algerian economic enterprises. It highlights the role of the agency in supporting and accompanying innovation in start-ups.

The study finds that the National Agency plays a role in supporting and accompanying innovation by guiding researchers and valorizing scientific research results through contractual agreements or participation in scientific events.

- ✓ **Keywords:** Innovation; Startups; National Agency for the Valorization of Research Results and Technological Development(ANVREDET).

## **1. Introduction:**

In the context of growing interest in entrepreneurship and its unique contribution to driving development and advancing economic and social growth, Algeria has adopted various policies to encourage small enterprises towards innovation. This includes establishing specialized bodies and agencies to support these enterprises, providing an environment conducive to creativity and innovation.

Among these agencies, the National Agency for the Valorization of Research and Technological Development has played a significant role in the economic valorization of scientific research across various fields. This is achieved by stimulating creativity and innovation among researchers and contributing to the practical and applied realization of innovative and creative ideas, as well as spreading entrepreneurial culture. The agency annually conducts national competitions to select the best innovative projects, providing financial support and training, thereby facilitating their transition into start-ups.

In light of the foregoing, the study's problem statement is as follows:

- ***What is the role of the National Agency for the Valorization of Research and Technological Development in encouraging innovation in start-ups?***

To address this issue, the following sub-questions are posed:

- What is the National Agency for the Valorization of Research and Technological Development?
- What are the major contributions of the National Agency in encouraging innovation in start-ups?

The hypotheses set forth are:

- The National Agency for the Valorization of Research is an effective mechanism for the economic valorization of researchers' findings and encouraging innovation in start-ups.

- There is a strong relationship between the National Agency for the Valorization of Research and Algerian economic enterprises.

From this perspective, the study is divided into the following sections:

- Algeria and its role in supporting innovation in start-ups.
- The nature of the National Agency for the Valorization of Research and Technological Development.
- Contributions of ANVREDET in encouraging and supporting innovation in start-ups.

## **2. Algeria and Its Role in Supporting Innovation in Start-ups:**

The topics of start-ups and innovation have garnered increasing attention in many countries, including Algeria, which has recognized their importance. In this section, we will discuss the concepts of innovation and start-ups, and shed light on Algeria's contributions to supporting and accompanying these enterprises.

### **2.1 Concept of Innovation:**

Innovation is a term with multiple definitions. It is used to indicate everything new, distinctive, and unique. More precisely, innovation is "the process that results in new products, different kinds of products, as well as production methods" (Rakam, 2021, p.283).

Peter Drucker, in his book "*Entrepreneurship and Innovation*," uses a broad definition of innovation, more than just renewal. He defines it as an organized abandonment of the old by changing resources and production methods that alter the value and satisfaction derived from new and renewed products used by consumers (Najm, 2003, p.21).

Rogers defines it as: "the emergence of new production resulting from the interaction between the individual and experience" (Medhat, 2004, p.74).

Innovation improves product quality, helps increase sales volume, and is essential for survival in competitive markets. It is one of the factors that contribute to the development of start-ups and is a primary goal for competition and development (Westerman, Bonnet, McAfee, 2016, p.77).

## **2.2 Nature of Start-ups:**

### **A. Concept and Characteristics of Start-ups:**

The English dictionary defines a start-up as a small venture that has just begun. The word 'Start-up' consists of two parts: 'Start', meaning to begin, and 'Up', signifying strong growth. Paul Graham, in his famous article about "Growth," describes a start-up as a company designed to grow rapidly. According to Patrick Fridenson, being a start-up is not about age, size, or the nature of the activity. It requires answering four questions: potential for strong growth, significant funding, famous fundraising, and certainty that the market is new and risky (Boualchaour, 2018, p.420).

It is also defined as: "any young and dynamic enterprise built on technology and innovation, where its founder attempts to develop a product or service unknown for creating new markets" (Bourouissa, 2022, p.80).

According to Eric Ries in his book "*The Lean Startup*," a start-up is a human entity designed to produce a new product or service under extreme uncertainty (Broual&Khalout, 2017, p.20).

From this, the characteristics of start-ups can be identified as: (Boubsila, 2023, pp.59-60)

- Newly established enterprises;
- Young companies facing two options: evolve into successful companies or close down and incur losses;
- Enterprises with opportunities for gradual and increasing growth;

- Heavily reliant on technology, creativity, and innovation;
- Business operations based on pioneering ideas and meeting market needs in a smart and modern way;
- Require low costs compared to the profits they generate.

### **B. Importance of Start-ups:**

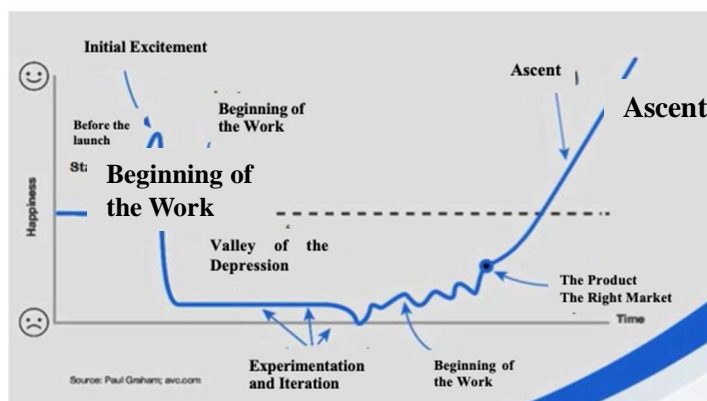
The significance of start-ups is highlighted in the following points (Basweih, Mimouni, and Bougattaya, 2020, p.407):

- Providing significant employment opportunities for youth, especially in the context of low employment rates;
- Developing and enhancing individual capabilities;
- Diversifying and developing the local economy and increasing its competitiveness;
- Start-ups fuel economic growth and allow innovation to flourish, thus representing the future for major enterprises.

### **C. Life Cycle of Start-ups:**

The life cycle of start-ups can be illustrated through the following curve designed by Paul Graham:

**Figure (01):** Life Cycle of Start-ups



**Source: (Boualchaour, 2018, p.421).**

From the figure, it can be said that start-ups go through six stages as follows:

❖ **Stage One:**

Begins before the launch of the start-up, where an individual or a group of people propose an initial model for a creative, new, or even crazy idea. During this stage, in-depth research is conducted, the idea and the market are thoroughly studied, along with consumer behavior and preferences, to ensure its feasibility, development, and future sustainability. Funding is sought, typically self-financed at the early stages, with the possibility of some government assistance.

❖ **Stage Two:**

The launch stage, where the first generation of the product or service is introduced. At this stage, the biggest challenge is finding someone to embrace and financially support the idea. Entrepreneurs often rely on what is known as 'Friends, Family, Fool' for funding. The product requires extensive promotion and is usually priced high. Media publicity for the product begins.

❖ **Stage Three:**

An early stage of take-off and growth, where the product reaches its peak with high enthusiasm, then the offer spreads, and the product peaks. The activity may expand beyond its original innovators, leading to negative pressure as the number of exhibitors for the product increases, leading to possible failure or other obstacles that could push the curve into decline.

❖ **Stage Four:**

Sliding into the valley. Despite continued funding by venture capitalists, the project continues to decline until it reaches a stage called the valley of sorrow or death, leading to market exit if not rectified, especially since growth rates are very low at this stage.

**❖ Stage Five:**

Climbing the slope. The entrepreneur continues to modify their product and launch improved versions, allowing the start-up to rise again thanks to applied strategies and the team's gained experience. The second generation of the product is launched, priced appropriately, and marketed more broadly.

**❖ Stage Six:**

High growth stage. The product is finally developed, exits the trial and testing phase, and is introduced into the appropriate market. The start-up begins to grow continuously, and the curve rises, with likely 20 to 30% of the target audience adopting the new innovation. This stage marks the beginning of economies of scale and substantial profit realization.

**2.3 Algeria's Efforts to Support Innovation in Start-ups:**

In pursuit of economic diversification and seeking real alternatives to oil, Algeria has given considerable importance to start-ups by establishing a Ministry for the Knowledge Economy, Start-ups, and Micro Enterprises to encourage and support investment through them.

**1. Criteria for Establishing Start-ups in Algeria:**

The Algerian legislator issued Executive Decree No. 20-254 dated September 15, 2020, related to the establishment of the National Committee for Labels (Start-ups, Innovative Projects, Incubators) and defining its tasks, composition, and operation. According to Article 4 of the decree, a start-up label is granted based on a set of criteria as follows (Executive Decree No. 20-254, 2020, p.11):

- The enterprise must not exceed eight years of age;
- Its business model must rely on innovative products, services, business models, or ideas;
- Its annual turnover must not exceed the amount set by the National Committee;

- The number of employees must not exceed 250, with at least 50% of the company's capital owned by natural persons, accredited investment funds, or other enterprises that have obtained the start-up label.

In this context, Algeria ranked sixth in Africa in 2022 with 110 start-ups.

**Table (01): Number of Start-ups in Algeria and their Ranking in Africa**

Rank	Country	Number of Start-ups
01	Nigeria	793
02	Egypt	609
03	South Africa	463
04	Kenya	312
05	Ghana	123
06	Algeria	110
07	Cameroon	97
08	Uganda	95
09	Morocco	88
10	Ethiopia	53

**Source: Compiled by the researcher based on the website:**

<https://www.startupranking.com>

## 2. Measures Taken to Support Start-ups:

The Algerian government has taken several decisions to support start-ups, notably (Mathari, 2023, p.135):

- Establishment of a Supreme Council for Innovation to valorize innovative ideas and initiatives, and national research potentials;
- Creation of an investment fund dedicated to financing and supporting start-ups;
- Development of a legal framework specifically for establishing start-ups, and preparation of regulatory texts;
- Creation of a ministry focused on the knowledge economy, start-ups, and micro-enterprises;
- Establishment of an organization for the promotion and management of start-up support structures as per the supplementary finance law of 2020 (Ben Ammar, 2022, p.341).



In terms of tax incentives provided by the Finance Law of 2020 for start-ups, especially those active in innovation and new technologies, these include (Basweih, Mimouni, and Bougattaya, 2020, p.413):

- Tax exemptions of up to five years, especially on overall income tax;
- Exemption from professional activity tax for three years from the start of the activity;
- Exemption of equipment purchased by start-ups for project execution from value-added tax;

Additionally: (Mathari, 2023, p.136)

- Providing facilities for financing start-up activities, bank loans to cover their investment costs;
- Establishment of a digital platform for start-ups aimed at combating bureaucracy and facilitating administrative procedures;
- Allowing investment capital companies to own more than 49% of the shares in start-ups.

#### **2.4 Examples of Start-up Projects in Algeria:**

**Tak Graph Enterprise:** A prime example, Tak Graph received the first prize for e-health innovation at the Officine Expo in Marrakech in 2020. The award was for its innovation of a device that determines the appropriate amount of anesthetic for patients before surgery.

- ❖ **B Link Enterprise:** Specializes in designing platforms for insurance companies.
- ❖ **Siamois QCM:** One of the most popular start-ups, it offers an online training platform for medical students, helping them save time and money.

- ❖ **YASSIR:** Aims to build beneficial relationships between service providers and their potential clients across various fields such as health, transportation, logistics, and nutrition.

### **3. The National Agency for the Valorization of Research and Technological Development:**

In this section, we will define the National Agency for the Valorization of Research and Technological Development (ANVREDET) and highlight its missions and objectives.

#### **3.1 Definition of ANVREDET:**

Established by Executive Decree No. 98-137 on May 3, 1998, ANVREDET is a public institution with an industrial and commercial character, legal personality, and financial autonomy, headquartered in Algiers (Executive Decree No. 98-137, 1998, p.09).

ANVREDET, initially under the supervision of the Ministry of Higher Education and Scientific Research and now under the Directorate General for Scientific Research and Technological Development, primarily aims to encourage innovative social and economic projects through the creation of innovative start-ups or technology transfer ([guide-de-creation-dentreprise-2019-arabe-web.pdf](#) )

ANVREDET's work is centered on a well-considered strategy that revolves around its core business: promoting research results. These results come from universities, research centers affiliated with DGRSDT, or selected project ideas within ANVREDET, supporting these ideas from inception to completion through various complex maturity stages.

The agency incorporates several structures including departments for evaluation, innovation, management, legal affairs, and cooperation. These departments are responsible for developing entrepreneurial spirit and opportunity discovery, ensuring connections between all stakeholders, incubating project ideas in one of the 12

incubators managed by ANVREDET, establishing project holders and framework agreements with the mentioned stakeholders, and seeking social and economic opportunities to transform prototypes into marketable products. ([anvredet.org](http://anvredet.org))

### **3.2 Its Objectives:**

The agency's programs aim to achieve the following objectives : ([anvredet.org](http://anvredet.org))

Strengthening the links between the scientific research sector and the industry;

- Creating dynamics within the national economy that allow the emergence of innovative companies;
- Developing a culture of innovation within national companies to become the primary source of growth and productivity improvement through the adoption of emerging technologies;
- Creating job opportunities;
- Encouraging and transferring new technologies to the social and economic sector;
- Promoting economic growth through innovation;
- Supporting innovative ideas;
- Developing and enhancing cooperation and exchange between the research sector and the social and economic sector.

## **4. Contributions of the National Agency for the Valorization of Research and Technological Development in Encouraging Innovation in Start-ups:**

This section will discuss the major achievements and contributions of the agency in promoting innovation in start-ups.

### **4.1 Strategies Adopted by the Agency to Support Innovation in Start-ups:**

ANVREDET employs various strategies to support innovation in start-ups, outlined as follows ([anvredet.org](http://anvredet.org)):

- Supporting promising innovative ideas until the establishment of the company;
- Identifying and promoting innovations;
- Assisting innovators in managing services related to intellectual property protection, prototyping, business planning, partnership, and financial packages;
- Serving as an interface for the exchange between research and sectors in terms of supply and demand for innovation.
- ANVREDET formalizes the protection of innovation and innovators' rights through its legal publications. Its intellectual property policy includes:
  - Maintaining confidentiality of the idea;
  - Protecting the innovation and preserving the rights of the inventors;
  - Contractual supervision of innovation;
  - Market and technical-commercial monitoring.

ANVREDET adopts the policy of the World Intellectual Property Organization (WIPO). Protection tools include:

**Patent:** Grants the holder exclusive rights over their invention, ensuring protection for a specified period.

**Trademark:** A distinctive sign indicating that products or services are produced or provided by a specific person or company.

**Industrial Design and Model:** The decorative or aesthetic aspect of an industrial or handicraft item.

**Copyright:** Rights granted to creators of literary and artistic works (including computer programs).

**Collaborating with protection institutions:** Nationally, the Algerian National Institute of Industrial Property, and internationally, the World Intellectual Property Organization.

#### **4.2 Achievements of ANVREDET:**

Significant achievements include (Ben Toumi&Dibi, 2015, p.94):

- Organizing the first Research and Development Symposium in 2005, focusing on scientific products and services, which included 279 projects.
- Developing a map of innovation support and development structures in Algeria.
- Supporting and accompanying innovative enterprises for project owners residing in France.
- Organizing the National Innovation Fair 2013-2015.
- Organizing the National Fair for Valorizing National Programs, resulting in partnership agreements, including a partnership between the Ministry of Higher Education and the National Enterprise of Electronic Industry (ENIE).
- Forming partnership contracts with various national universities: University of Boumerdès, University of Dely Ibrahim in Algiers, University of Oran.

As for the achievements in 2021, they included:

ANVREDET and the Center for Research in Industrial Technologies signed a framework agreement for partnership on January 21, 2020. This agreement aims to establish cooperation foundations between both entities and outlines the conditions for collaboration in areas of common interest, particularly in establishing and supporting start-ups. The cooperation focuses on:

- Exchange of expertise between the staff of the Research Center and ANVREDET, involving the center's experts in ANVREDET's evaluation committees for project assessment;
- Establishing a joint committee between the two entities to define, guide, and develop the planned activities.

The document also includes the creation of a technological vigilance network, scientific and technical expertise, training in the field of innovation, and joint study of projects that can valorize the economy through the creation of start-ups, in addition to exchanging resources for organizing events related to the activities of both parties ([aps.dz](http://aps.dz)).

➤ **Organization of a National Innovation Competition from February 13 to 15, 2021:**

The National Agency for the Valorization of Research and Technological Development, in collaboration with the Directorate-General for Scientific Research and Technological Development and the Business Incubator of the University of Boumerdès, organized a national innovation competition (ID Tour) from February 13 to 15. The competition aimed to select the top 5 innovative ideas under the theme "*From Idea to Startup*." The competition, held remotely using the Zoom platform, was described as "*a pioneering event in the world of entrepreneurship*," allowing students to participate in an innovation challenge within a scientific environment.

The goal of this competition was to spread the culture and practices of start-ups and entrepreneurship among young students to find tomorrow's entrepreneurs and study projects that could be supported and realized through funding and nurturing their emerging project ideas.

The competition focused on innovation in various fields related to "*economic development and finding solutions to current problems*." Out of 44 projects registered from across the nation, 19 were selected. The initial selection committee evaluated

and valued the projects based on criteria such as innovative aspect, creativity, project maturity level, socio-economic and environmental impact, profitability, marketability, and economic sustainability.

In March 2021, the winners of the best project idea for creative female entrepreneurs were honored via the Zoom platform under the theme "*From an Innovative Idea to a Startup*" to encourage female entrepreneurship.

➤ **Signing of a Partnership and Cooperation Agreement between ANVREDET and the Scientific and Technical Research Center for the Development of the Arabic Language:**

- ❖ This agreement aims to support researchers and engineers in realizing projects with economic and social impact ([aps.dz](https://aps.dz)). Key areas of the agreement include exchanging expertise and integrating the center's experts into ANVREDET's evaluation committees for project assessment, establishing a network for training and joint project study, and promoting economic valorization through the creation of start-ups.

The agency stated that it had concluded cooperation agreements with most centers and that signing this agreement, initially scheduled for January, was postponed due to the COVID-19 crisis. A joint committee comprising representatives of both parties will be established to follow up on the implementation of the agreement's provisions.

➤ **Signing of an Agreement with the National Algerian Bank:**

The General Director of the National Algerian Bank confirmed that this agreement is part of the bank's continuous support measures to encourage entrepreneurship and accompany pioneers and project owners in establishing start-ups, thereby actively contributing to the development of the national economy by supporting major innovative projects for business creation and promoting the entrepreneurial spirit.

The agreement was signed during the International Fair for Waste Recovery and Valorization "REVADE" and the award ceremony for the winners of the ID Tour Green competition (<https://www.echoroukonline.com/>).

➤ **Cooperation Agreement between ZianeAchour University of Djelfa and ANVREDET, October 2022:**

This agreement, part of the PRIMA (Partnership for Research and Innovation in the Mediterranean Area) program implemented under Euro-Mediterranean cooperation, aims to:([djelfainfo.dz](http://djelfainfo.dz))

- Serve entrepreneurs and promote scientific research through a joint policy of sustainable development, establishing a close relationship between higher education, scientific research, and technological development;
- Contribute to technology transfer and technological transformation, promoting and encouraging scientific innovation, supporting, and incubating start-ups, small and medium enterprises;
- Facilitate technology transfer and business management skills between the university and ANVREDET, welcoming researchers and entrepreneurs to incubate their ideas and projects, and further develop them;
- Organize informative and awareness days, seminars, joint meetings, and exchanges of experiences and training courses in innovation, utilizing the human and technical resources of professors, researchers, scientific bodies like research laboratories, and scientific clubs for the benefit of both parties.

**5. Conclusion:**

This study aimed to understand the role of the National Agency in supporting innovation in start-ups. It concluded that the National Agency for the Valorization of Research effectively supports and accompanies start-ups in realizing and implementing innovative and creative ideas of researchers into practical applications.



This role is evident through the economic valorization of research results by guiding, accompanying, and supporting researchers in developing and protecting their innovative ideas.

Moreover, the agency contributes to encouraging and supporting innovation in start-ups by establishing contracts between universities, research centers, and economic enterprises.

Despite its significant role in this sector, many obstacles still face the National Agency for the Valorization of Research, particularly bureaucracy and a lack of awareness among researchers about its mechanisms.

## **6. Results:**

- Encouraging, developing, and enhancing the spirit of creativity and innovation among start-up owners;
- Like other countries, Algeria has endeavored to open up opportunities for talents and encourage them to enter the world of entrepreneurship as part of a national strategy to develop start-ups and encourage creativity and innovation. This is done through the establishment of a ministry dedicated to the knowledge economy and start-ups, creating a special fund for their financing, and accompanying institutions.
- The National Agency for the Valorization of Research and Technological Development works to encourage ideas and ensure their realization and success;
- The agency also focuses on protecting intellectual property and patents.

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