

The Future of Startups in Algeria in Light of Artificial Intelligence Developments

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Abstract: In this research paper, we discussed the future of emerging institutions (startups) in Algeria in light of the developments of artificial intelligence (AI), relying on the descriptive analytical approach. The results indicate that many new economic entities are utilizing these new technologies presented by AI to find practical solutions to their management problems and to open up to the national market by producing and presenting new marketable innovations. Among the most significant manifestations of these uses are those evident in: the education sector through the development of learning technologies using a unique technological method, the environment sector and combating forest fires, the health sector through the development of health technologies, the agriculture sector, the field of finance and electronic payments.

Keywords: Startups, Artificial Intelligence, Artificial Intelligence Applications.

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Introduction:

The startup is an ambition for many young people, especially university graduates, as it is easy to establish, allowing them to develop their projects and ideas by studying market requirements to determine the feasibility of their project on the ground. Algeria, as a developing country, is compelled to intensify its productive fabric and industrial system to revitalize the national economy, develop and diversify its productive capacity, and work to cover the budget deficit resulting from the decline in hydrocarbon prices. Interest in startups has grown, as they are currently the best alternative to overcome this situation. At the same time, Algeria is keeping pace with the world of Artificial Intelligence by allocating academic and scientific programs to regulate the fields of use for these new technologies in the future. Algerian economic institutions, particularly startups, are striving for technical and technological adaptation of these technologies for their benefit to create additional competitive opportunities and ensure continuity in the market through the use and adoption of AI outputs in production.

Based on the above, we pose the following question: **What is the future of Algerian startups in light of Artificial Intelligence developments?**

To answer the posed problem, we will present the following themes:

Theme One: What are Startups and Artificial Intelligence .

Theme Two: The Reality of Startups in Algeria.

Theme Three: The Most Prominent Manifestations of AI Applications in Algerian Startups.

Theme Four: Future prospects for startups in Algeria in light of developments in artificial intelligence.

Research Objective: The research aims to reveal the future of Algerian startups in light of Artificial Intelligence developments, as well as the various AI uses that Algerian startups can resort to, in a

new direction toward global technological alignment with these new technologies.

Research Methodology: To answer this problem, the descriptive analytical approach was used to cover all aspects of the research, by analyzing and processing various reports and data, whether publications issued by official bodies or specialized experts in the

What are Startups and Artificial Intelligence: In this theme, we address some concepts related to startups and Artificial Intelligence, including the definition of startups, their characteristics, and importance, as well as the definition, types, characteristics, and objectives of Artificial Intelligence.

I -Theme One: What are Startups and Artificial Intelligence: In this theme, we address some concepts related to startups and Artificial Intelligence, including the definition of startups, their characteristics, and importance, as well as the definition, types, characteristics, and objectives of Artificial Intelligence.

1.1. The Nature of Startups: are viewed as the most prominent new sources for creating new jobs and absorbing unemployment. They are also a facet of creativity and innovation, instilling an entrepreneurial spirit in young job seekers. Thus, startups have contributed to achieving human and economic development and increasing the economic growth rate of countries that support this type of institution.

Definition of Startups: Startups have received great attention from researchers and policymakers over the past decades. The term "Startup" is derived from English and consists of two words: "Start" meaning or commence, and "Up" meaning upward or in the direction of ascent (**Ben Lakhdar, Chnibi, Mekhnach, Berik, 2020, p27**). Therefore, the term Startup can be literally translated as "start going up," and this meaning aligns with the characteristics of startups, as they: Start from zero, Aim for rapid growth, Face significant challenges.

Ries, E. defined a startup as "a human institution designed to innovate new products and services under conditions of extreme uncertainty". It can also be considered an institution suffering from a state of

confusion about what its products are, who its customers are, and how to make a profit. Therefore, startups can be defined as commercial ventures that aim to solve the problems of our time and meet current needs, but without a guarantee of success (**Ries,E, 2011,p20**).

They have also been defined as companies that have no relation to the size of economic institutions, according to Professor Steve Blank, but rather as economic entities capable of moving quickly and stably from -one setback to another, despite the surrounding risks. They are also distinguished by a (**Ries,E, 2011,p20**) n exceptional characteristic: the ability to learn and continuously adapt (**Youssef , H , 2021, p77**) .

The European Startup Network defines a startup as "an independent organization less than five years old, aiming to create, improve" (**Network, E , S, 2021,p11**).

Characteristics of Startups:

Startups are characterized by a set of features that distinguish them from other types of economic institutions, which can be summarized as follows, Recently established and formed institutions: Startups operate in experimental markets with new and hypothesized ideas from entrepreneurs.

Institutions with the opportunity for increasing growth: The name "startup" comes from the idea of their ability to launch and achieve rapid growth in profits compared to the lower costs required by the project, Technology-based institutions: Startups seek to apply innovative ideas to satisfy market needs in a smart and fast way by relying on technology and the internet.

Institutions requiring low costs: The scale of low costs in startups often outweighs the high and rapid profits.

Importance of Startups:

Startups play an important role in facing difficulties and promoting national economies, as they contribute to the Gross Domestic Product (GDP) and accelerate their growth. The importance and role of startups can be summarized as follows:

Providing real productive job opportunities and combating the unemployment problem: They are characterized by a high ability to provide job opportunities, in addition to the capacity to absorb and

employ labor with little or even no experience, which absorbs job seekers, especially those with degrees, ideas, and university graduates. This is a direct response to the unemployment problem, which countries struggle to create jobs for, despite their progress on the path to growth (**Youssef, H , Siddiqi, 2021,p 27, previous reference**).

Innovation in Research and Development (R&D): The characteristic of innovation in startups, particularly in the field of technology, is a tool that is more necessary than ever for the development of any country in the world, and the ability to innovate and develop products at a lower cost compared to large institutions.

Increasing productivity and maintaining competitiveness: They played a pivotal role in the 1920s and past years by using modern tools, means, (**Sebti, M, 2008-2009, p13**).

Spreading positive values in society: Startups address many of the most important economic, social, and cultural problems through their (**Sebti, M, 2008-2009,p72, previous reference**).

Investing savings and strengthening/attracting investors and foreign capital: The ability to employ the savings of the owner or owners of a project instead of keeping them hoarded or employed in areas that do not create added value. This allows for capital accumulation and the transfer of a segment of individuals from a lower to a higher income (income redistribution), and the attraction of local and foreign investors (**Hussein and Siddiqi, 2021,p13**).

1.2. The Nature of Artificial Intelligence (AI): Artificial Intelligence is considered one of the branching technologies of computer science, through which artificial programs can be created and designed to simulate human intelligence. It gives institutions the ability to demonstrate their full potential and elevate them to the highest level, ensuring the efficiency and effectiveness of required tasks.

Definition of Artificial Intelligence (AI): There are several definitions of Artificial Intelligence, some of which are mentioned as follows:

Marvin Lee Minsky's definition: He states that AI is: "the construction of computer programs that engage in tasks that are satisfactorily accomplished by humans because they require high-level mental processes such as (cognitive learning, memory organization, critical thinking)" (**Abdullah Moussa, Habib Ahmed Bilal, 2019,p10**).

Artificial Intelligence also refers to the ability that computers and smart machines have to execute assigned tasks that previously required human intelligence to perform, such as image recognition, speech, and making smart decisions based on available data (**Ben Khaled Mansour, 2023,p03**).

This technology is considered a manifestation of the Fourth Industrial Revolution, having many applications employed in various fields, including economic sectors, institutions, and startups (**Abdullah Moussa, Habib Ahmed Bilal, 2019,p10**). It can also be defined as consisting of two parts: The first is "Intelligence," which expresses the ability to understand and think, The second is "Artificial," which refers to something manufactured or unnatural (**Saleh Al-Asad, pp. 371-383, 2022**).

It is also defined as: the study of intellectual capabilities using computational models, focusing on how to simulate human thinking (**Alia Zaid Al-Mutairi, pp. 145-176, 2022**).

It is also meant to be: "a science that aims to make machines think like humans, meaning that the computer becomes as if it possesses a mind. These devices simulate human mental abilities and perform tasks, and can improve their performance based on the information they collect" (**Mohamed Hana Rizk, pp. 573 - 587, 2021**).

Based on the foregoing, Artificial Intelligence can be defined as: "a science and technology that aims to develop systems and machines that simulate the cognitive and intellectual abilities of humans, and work to improve themselves by learning from the data and information they obtain".

Types of Artificial Intelligence:

Through the application of Artificial Intelligence in various fields, three types have emerged, which can be summarized as follows **(Khalil Saidi and Marzouk Ben Mahdi, 2022, p. 27)**.

Narrow Artificial Intelligence (Narrow AI): This type is limited to performing clear tasks, such as self-driving cars, chess games on smart devices, etc.. This type has seen widespread application compared to other types, General Artificial Intelligence (General AI): Unlike Narrow AI, this type has the ability to work and simulate the human mind's capacity, by making machines and computers capable of self-planning, such as the artificial neural network method that produces neural network systems for machines and electronic devices, Super Artificial Intelligence (Super AI): This type is characterized by the superiority of machine and computer intelligence over the level of the human mind's, intelligence. This is due to the features it possesses, such as the ability for self-learning and planning, which helps in accomplishing tasks in a super-intelligent manner.

Characteristics of Artificial Intelligence: AI technology relies on a set of characteristics that help it achieve the required goals and make it distinct. These can be summarized in the following points **(Linda Saymouda and Souhaila Dahmani, p. 91, 2022)**.

Applying AI to computers, machines, and means makes them capable of planning and analyzing problems using algorithms and logic, AI-based devices can understand, process, and analyze inputs to provide outputs that meet user needs with high efficiency and effectiveness, AI ensures the ability for continuous and self-learning without the need for supervision and guidance, The ability to process a large volume of information that reaches computers simultaneously, AI can observe similar patterns of data and process them more effectively than the human mind.

It can find rapid solutions to unfamiliar problems using its techniques and cognitive abilities.

Objectives of Artificial Intelligence:

The objectives of Artificial Intelligence are centered around seven main axes, which include:

- Simulating the advanced mental functions of the human brain **(Bint Nabi Yasmine, Belaassel, Al Hussein, Amrash, 2022, pp. 1153-1177)**.

- Organizing artificial neurons in a way that allows them to form consciousness and ideas.
- The ability for self-improvement and innovation.
- Enabling computers to use language

Measuring the complexity of problems and dealing with ideas and concepts, instead of being limited to responding to events only.

Based on the seven objectives of AI mentioned above, it can be said that AI seeks to achieve a high level of cognition and self-innovation, making it capable of facing complex challenges and improving its efficiency over time. For example, in the field of education, AI can develop smart learning systems capable of understanding and adapting to the individual needs of students, thus providing personalized educational content for each student based on their level of understanding and progress. These

II -The Reality of Startups in Algeria: Algeria is currently undergoing significant development in the field of entrepreneurship and the establishment of startups. To achieve this goal, the Algerian government has worked to create a suitable environment to support this vital sector. It has issued numerous laws and regulations that define the legal framework for startups in Algeria. In this theme, we will address the legal framework for startups in Algeria, in addition to the financing of startups in Algeria, and the challenges faced by startups in Algeria.

II.1. The Legal Framework for Startups in Algeria: The Algerian government has taken several initiatives to enhance support for startups, establishing a regulatory framework that ensures compliance with the fundamental laws for these institutions. It has also provided mechanisms and programs to support and accompany these institutions.

The Legal System for Startups in Algeria: In the context of supporting the dynamic of startup creation in Algeria, the Algerian government has worked to create a suitable environment for this type of institution (**Iklouli Ould Rabah Safia, 2021, p. 33**), The Algerian legislator addressed the definition of a startup or innovative institution in Law No. 15-21 concerning the guiding law on scientific research

and technological development. It also referred to it in the provisions of Law No. 17-02 related to the guiding law for small and medium enterprises, the Finance Law for the year 2020, as well as the provisions of Executive Decree No. 20-254 regarding the establishment of a National Committee for granting the "Startup" or "Innovative Project" label and defining its tasks, composition, and operation.

Bodies Responsible for Supporting Startups: In the effort to develop the startup sector in Algeria, there must be bodies that work to develop this sector and facilitate access to necessary funding and resources. These bodies include the Ministry of Small Enterprises, Startups, and Knowledge Economy, the Supreme Council for Innovation, and the Startup Financing Fund, The First Body: Startup Financing Fund: A venture capital fund was established with the participation of public banks and the National Agency for the Promotion and Development of Technological Parks, with the aim of forming a company to finance startups. The Supplementary Finance Law 2020 stipulated that capital companies are allowed to acquire more than 49% of the startup's shares to support and finance it. This represents the main challenge for the growth of these high-potential institutions. For venture capital companies, the 2006 law limited their contribution to economic projects to 49%. It was also proposed to establish four types of economic zones at the national level (**Nariman Ben Abderrahman, 2023, p. 618**).

The Startup Financing Fund has allocated financial envelopes amounting to 510 million Algerian Dinars for innovative project holders since its establishment at the beginning of 2021. The innovative projects funded by the Fund concern 18 sectors and activities, particularly services, information and communication technology, health, transport, and tourism. The Fund, which is present in 16 provinces across the country, is a venture capital company dedicated to financing startups and innovative projects (**Nariman Ben Abderrahman, same reference, 2023, p. 618**).

The Second Body: The Supreme Council for Innovation: As part of establishing startups and promoting their environment to intensify their presence in the economic field, the National Committee in charge of granting the "Startup" label was established under the supervision of the Minister in charge of Startups. This committee is composed of representatives from various ministries related to

economic activities, technology, and innovation, and consists of nine members (20-254, December 20, 2020): a representative of the Minister in charge of Startups, a representative of the Minister of Finance, a representative of the Minister in charge of Higher Education and Scientific Research, a representative of the Minister in charge of Post and Telecommunications, a representative of the Minister in charge of Industry, a representative of the Minister in charge of Agriculture, a representative of the Minister in charge of Maritime Fishing and Pharmaceutical Products, a representative of the Minister in charge of Digitization, and a representative of the Minister in charge of Energy Transition and Renewable Energies. An additional non-permanent member chosen by the committee assists it in its tasks. This member can be an individual or a body with achievements and skills in the area of assistance requested by the committee, **The Third Body: The Ministry of Small Enterprises, Startups, and Knowledge Economy: The Ministry of Small and Medium Enterprises, Startups, and Knowledge Economy is working to create a legal, regulatory, and functional framework for startups. This is done by developing a roadmap to support and finance this type of institution and enable it to play an important role in the national economy, (<https://www.aps.dz/ar/economie>, 10.08.2025).** The powers of the Ministry of Small Enterprises, Startups, and Knowledge Economy are set out in Executive Decree 20-254.

II.2. Financing Startups

Financing startups represents a major obstacle for entrepreneurs, as many suffer from failure at the beginning of their journey due to the lack of necessary funding. Therefore, we address the sources of startup financing, the objectives of startup financing, and the decisions taken by the Algerian government to support these startups (**Executive Decree No. 254-20, Article No. 03, 2020,p445**).

Sources of Startup Financing: The sources of startup financing vary between traditional and modern. Traditional sources in startup and small enterprise financing can be distinguished from the perspective of economic financing: there are internal and external financing sources. From the perspective of economic development financing, it refers to the composition of the institution's liabilities, whether related to debt or ownership, meaning all budget resources used by the institution to finance the operating cycle or the investment cycle. As for modern sources in startup financing, one of the modern sources is

bank financing, which has become the most secure and important means of financing these institutions.

Algerian Government Decisions to Support Startups and the Objective of Their Financing: Sensing the urgent need to support startups, the government has taken a series of measures and decisions to enhance the business environment and provide financial and technical support to these institutions. These decisions aim to promote

investment in innovation and encourage ambitious youth to establish their own projects.

What can be observed in the reality of startups in Algeria is the widespread attention from the Algerian government to these young companies. This attention is evident both in the adopted legislation and laws that aim to overcome the various difficulties they may face, and through the financial support allocated to these institutions. This support will encourage their inception first, then enable the realization of the idea through the production process, followed by continuity through marketing. Marketing is a crucial stage for these economic entities, as they can succeed in a fertile environment that needs their various products and innovative ideas. This may make them a focal point for customers, especially with the use of various new technological techniques, such as the outputs of Artificial Intelligence, where many data points indicate that this technology is being employed by startups.

III -The Most Prominent Manifestations of AI Applications in Algerian Startups: Many sectors globally have resorted to using Artificial Intelligence outputs, finding in it the technological goal that can solve many technical problems and provide customers with numerous services according to the needs they wish to achieve. Six major sectors using AI technologies have been identified: education, health, energy, water, transport, etc.

In Algeria, many startups have begun, in recent years, to use Artificial Intelligence by producing innovations that contribute to addressing many problems in various fields, which we highlight below:

III.1. Electronic Payment Platforms in the Finance and Business Sector: In the finance and business sector, the startup specializing in financial technology and electronic payment, (Guidini), stands out. It relies on two digital platforms:

The first relates to providing electronic payment solutions by integrating this service into a platform or phone application for the benefit of institutions that need this type of service, such as hotel reservations, bill payments, and ticket purchases via the internet.

The second application, named (Mytpe), targets the delivery of the electronic payment terminal via the internet (**APS, Algerian News Agency, 2023**).

Here, we must point out the important role of business incubators in accompanying and protecting the "startup" from the moment of establishment to the moment of emergence, from the risks of financial failure that future projects may face in the markets. Algeria is considered a pioneer in this field (**Hakima Halimi, 2021,p50**), as the number of business incubators in Algeria increased from 14 to 60 in just two years (**Amrouche Salim, 2025,p18**). They represent an essential and effective pillar for the continuity of these startups, about 5% of which use Artificial Intelligence technologies (**Sofiane Zaidi, 2024,p16**). According to many economic specialists, these new technological techniques offer enormous opportunities in the field of economic takeoff and social transformation in Algeria. They constitute a real bet to support the current government's efforts to complete the implementation of its five-year project for economic and social recovery 2020-2024. This is especially true for the startup file, on which the government relies heavily for most of its top priorities: digital transformation, industrial recovery, non-hydrocarbon exports, employment, the agricultural sector, and food security, etc.. Many companies today are racing to use Artificial Intelligence and keep pace with all its accompanying developments. It may be very difficult to count what Artificial Intelligence can do for startups, as it has advantages that make it useful in all details of the process of thinking about their establishment, management, development, etc., and other operations related to their activity at the level of their internal and

external environment on the widest possible scale (**Nour El Din Jawadi, 2025,p04**).

III.2. Smart Technologies in the Health Sector: The health sector is also considered by many specialists to be the field where Algerian startups most frequently use Artificial Intelligence technologies (**Zaidi, 2024**), Among the pioneering young institutions in this field is the startup (Strap Life), which relies on a digital platform targeting the assistance of the elderly and those with chronic diseases such as heart and diabetes patients, by accompanying them to take their medications on time, in order to avoid any complications that may affect their health. The application can be downloaded via a smartphone, and it is linked to a smart watch that allows patients and their close ones to use this data to take medication at the appropriate time (**APS, 2023**).

III.3. Smart Applications in the Agriculture Sector: Algerian youth succeeded in establishing a startup under the name "Nabatk". This company specializes in the development of smart internet applications, launching a digital platform named "Phyto", which gives farmers the opportunity to find solutions for diseases that may affect (**APS, 2023**).

These startups are no longer just presenting their projects in Algeria, but are also competing in many global events. For example, the (Ai Farm) institution managed to secure second place globally in the Technology for the Common Good competition, organized by Huawei in 2023. This was achieved through its distinguished project that offers solutions using an early warning system to deal with problems affecting farmers, by utilizing drones linked to Artificial Intelligence technologies (**Abdul Nasser Hanou, 2025,p30**).

The agriculture sector is one of the sectors that Algerian startups have entered through the use of Artificial Intelligence technologies, and there are many young experiences at the national level that are expected to have an impact on this field in the future (**Zaidi, 2024,p80**).

III.4. AI Robots for Firefighting and Environmental Protection:

Startups have also entered the field of environmental protection and firefighting. An example is the company "Bika Fire", which specializes in the manufacture of firefighting hoses and pumps, considered the first of its kind in Algeria. This company innovated a "robot" that can extinguish fires at a minimum distance of 300 meters. It is also equipped with water launchers capable of eliminating fires at a distance of 80 meters (APS, 2023).

III.5. Smart Innovations in the Education Sector: Among the institutions that use and employ Artificial Intelligence in their field is the Algerian startup "Inkydia", founded in 2020, specializing in digital educational methods through the "Moalem" (Teacher) platform. It provides educational services for middle and secondary school students by utilizing Artificial Intelligence technologies. Parents and (Masoudi and Dahmani, 2022,p20).

Furthermore, students from the Department of Computer Science at Yahia Fares University of Medea secured a patent for establishing a startup fundamentally based on Artificial Intelligence. Their achievement is a smart application that converts sign language for the "deaf-mute" community into spoken and written language automatically. This application targets the "disabled" community in various administrative spaces and public facilities to meet their needs smoothly, with the help of this new application.

IV- Future prospects for startups in Algeria in light of developments in artificial intelligence: In the age of the digital revolution, digitization and Artificial Intelligence have become among the most important areas affecting the development of nations. Algeria, as an African country, possesses significant potential in this field, but faces major challenges compared to developed countries, Algeria has a clear political will to promote digitization and Artificial Intelligence. It has announced initiatives such as the "Year of Artificial Intelligence" and established specialized institutions like the Higher School of Artificial Intelligence and the Scientific Council for Artificial Intelligence to guide national strategies. Algerian universities also include specialized programs in AI and computer

science, reflecting a focus on building human capital. However, the challenges remain substantial. Algeria suffers from a shortage of large data centers and high-speed communication networks, which are essential for AI applications. Furthermore, Algeria remains behind in government AI readiness indicators, reflecting a slowdown in translating strategies into tangible reality. While countries like Saudi Arabia and the UAE are investing billions of dollars in digital infrastructure, data shows that the percentage of institutions redesigning their digital systems in these countries is lower than the global average. This is an indicator of shared challenges in the region. Nevertheless, these countries have stronger infrastructure and larger investments, such as the "Digital Saudi Arabia" project or cooperation with international companies to train personnel. In contrast, Algeria relies on its human resources, as it is ranked among the best African countries in the production of scientific research related to Artificial Intelligence. In the pessimistic scenario, if dependence on the export of gas and minerals continues without technological development, it may turn into a consumer market for foreign technology, with serious economic dependence. Algeria stands at a crossroads: either it exploits its human potential and national strategies to become an influential digital player, or it remains captive to traditional resources. Success requires the concerted efforts of the government, the private sector, and academics, with a special focus on bridging the gap between ambitious plans and actual implementation. The biggest challenge rests on the young generation to lead the digital transformation and face global challenges with local innovations. Algeria ranked 12th in the Middle East and North Africa in the ranking of countries based on the Government AI Readiness Index, according to data from the "Oxford Insights" institution. It also ranked 120th globally in this classification. The 2023 report relied on three levels to assess the adoption of AI technology by governments:

Government Implementation of New Technologies: This includes the use of AI in services related to public interest, such as health, educational, and financial services, etc..

The Extent of Information Infrastructure Development: This is an important indicator that provides a picture of the availability of

technology and the necessary infrastructure to support the application of AI, such as the strength of internet network flow, data analysis centers, etc..

Sector Robustness: This level includes the extent of availability of the necessary skills and talents to develop AI applications in reality (**Salim, 2025,p05**). Through the first indicator, it can be concluded that Algeria is still far from achieving it in the current period. AI applications are individual and collective projects, not "societal projects," meaning they currently lack the desired capacity for use in Higher School of Artificial Intelligence in 2021, and the subsequent foundation of AI's role in various universities across the country. This is to accompany various projects and innovations and transform them into startups that gradually contribute to the national economy, especially since many reports predict that the Middle East and Africa region will be the fastest-growing regions in the world through spending on Artificial Intelligence until 2026, In an analysis of the current status of startups in Algeria and their relationship to AI developments, specialists say that the current status of these companies must first be diagnosed. Most of them are still young, and their success rates do not exceed 10%. Despite the tremendous efforts of the state, the national economic environment is still cluttered with many obstacles hindering their growth. The most important of these obstacles are: The expansion of the parallel market in its three dimensions (informal employment, parallel trade, informal foreign currency market), The absence of accurate statistical databases about the national market, which prevents market study and need assessment, High cumulative financial, tax, and fiscal burdens, Bureaucracy and administrative corruption, The small and rudimentary nature of the national industrial base, which reduces its need for startups to the extent that allows the latter an opportunity for growth and development, The scarcity of foreign investment and the limited nature of electronic payment (**Jawadi, 2025**).

In a forward-looking perspective on the future of startups in Algeria in light of Artificial Intelligence developments, Dr. Haroun Omar believes that this field is closely linked to the business environment. New sciences need accompaniment and support starting from the

university, through the appropriate economic and industrial climate, to the registration of patents, and then direct manufacturing. Artificial Intelligence is receiving widespread attention in the Algerian scientific community. In this context, a National Higher School of Artificial Intelligence was established, which provides high-level training to students in AI skills, in addition to the higher schools of informatics in the country. Experts believe this focus on innovation and AI development aims to benefit from its fruits in essential sectors related to health, food security, education, energy, and sustainable development.

To establish a place for Algeria on the world AI map, Mourad Bouache, a researcher at "Silicon Valley" University in the USA, called for the necessity of generalizing digitization in Algeria to all sectors and fields to extract the required data. In his opinion,

Furthermore, interaction with many international experiences in this field will deepen the Algerian experience in the field of startups. The organization of the "African Startup Conference" in its second edition in Algeria in 2023, under the high patronage of the President of the Republic, makes it a pioneer in the field in Africa. It ranks second on the Black Continent with 800 startups, after Nigeria, which ranks first with 803 startups. This economic event concluded with the ratification of the "Algiers Declaration," which includes a draft African charter for initiatives that include facilitating the movement of startups and stimulating investment in competencies, research, and development. This is through supporting an ecosystem that promotes the growth of startups, and it indicates a strong commitment by African governments, including Algeria, to develop strategies that encourage innovation, facilitate the establishment of companies, and reduce bureaucratic challenges.

President Abdelmadjid Tebboune affirmed during these events that this qualitative dynamic experienced by startups in Algeria will witness accelerated escalation in the coming period with the deep and extensive economic reforms that have been launched to improve the investment and business environment

Conclusion:

In conclusion of this study, it can be said that startups are among the most important engines of economic growth for nations, and attention

to them has become necessary due to their great importance in developing the national economy. Economically, they contribute to achieving development, while socially, they lead to a reduction in the severity of unemployment. Algerian startups have begun to pave their way toward using new technologies related to Artificial Intelligence in many sectors, such as health, information security, banks, telecommunications, education, and other fields. Despite this boom in startups, which were counted at 800 active institutions in multiple fields, the Algerian experience, despite its importance, remains nascent and needs time to mature. These economic entities will then have the capacity to contribute effectively to the national economy, Despite the positive aspects of startups, they are also exposed to many problems and obstacles at various levels, so they constantly need follow-up and care in their various stages of establishment. Therefore, most countries intervene by establishing bodies to support these institutions in various aspects. In addition to this is the problem of financing, which has become the bogeyman and the barrier that impedes their development from the establishment stage to expansion. This pushes institutions to seek external funding, as the financing process is the cornerstone for undertaking any investment project, playing an essential role in the various productive stages the institution goes through. Furthermore, the exorbitant cost of the Artificial Intelligence technologies used should not be overlooked, nor should the lack of internet flow, which negatively affects these modern technologies whose most prominent characteristic is that they are active in internet-connected spaces.

Artificial Intelligence contributes to raising the efficiency of operational processes and reducing costs, which enhances productivity and reduces costs. The challenges facing startups in adopting AI technologies include high costs, the need for accurate and reliable data, in addition to the lack of specialized expertise.

Nevertheless, new smart technologies remain in continuous development, meaning that startups will benefit in the future from all that is new in the field of Artificial Intelligence. This will reflect on their functional performance in management and production.

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