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THE STARTUP ECOSYSTEM IN ALGERIA : DIAGNOSIS AND AVENUES FOR IMPROVEMENT
A COMPARATIVE STUDY WITH THE UNITED ARAB EMIRATES, MOROCCO AND TUNISIA.

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ABSTRACT:
This article first defines the key concepts related to the research theme. It then analyzes the results of global startup ecosystem rankings from 2020 to 2025, based on reports by Startup Blink, in order to assess the position of Algeria's startup ecosystem relative to other countries worldwide. In this context, three Arab countries that are better positioned than Algeria were selected as benchmark cases: the United Arab Emirates, Morocco, and Tunisia. The study presents the components of each country's startup ecosystem, highlighting the key factors that have contributed to their success. Subsequently, a diagnostic analysis of Algeria's startup ecosystem is conducted by evaluating its current state as well as the efforts made by various stakeholders to foster its development. Finally, the results are discussed, and the main challenges facing this ecosystem are identified, including issues related to internet speed, e-payment systems, limited access to financing, and bureaucratic, administrative, and regulatory constraints, as well as cultural and educational gaps. The study concludes by proposing appropriate solutions and recommendations.

Keywords: startup ecosystem, Startup Blink, comparative study, challenges, Algeria.

RESUME :
Dans cet article, nous avons d'abord défini les concepts clés liés à notre thématique. Ensuite, nous avons interprété les résultats des classements mondiaux des écosystèmes de startups de 2020 à 2025 à partir des rapports de « Startup Blink », afin d'évaluer le positionnement de l'écosystème des startups en Algérie par rapport aux autres pays du monde. Dans ce cadre, nous avons retenu trois pays considérés

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comme exemplaires parmi les pays arabes et mieux positionnés que l'Algérie : les EAU, le Maroc et la Tunisie. Nous avons présenté les composantes de l'écosystème de chacun de ces pays, en soulignant les facteurs ayant contribué à leur succès. Par la suite, nous avons réalisé un diagnostic de l'écosystème des startups en Algérie, en analysant la situation actuelle ainsi que les efforts fournis par les différents acteurs pour le promouvoir. Enfin, nous avons discuté les résultats et identifié les principaux problèmes et défis auxquels cet écosystème est confronté notamment ceux liés à la vitesse d'Internet, aux difficultés du e-paiement, à l'accès limité au financement, aux contraintes bureaucratiques, administratives et réglementaires, ainsi qu'aux lacunes culturelles et éducatives, dans le but de proposer des pistes de solutions et recommandations adaptées.

Mots Clés: écosystème des startups, Startup Blink, etude comparative, défis, Algérie.

I. INTRODUCTION

On a global scale, the first startups emerged in the 1970s in Silicon Valley, United States, coinciding with the rise of the internet and the digital revolution. Over time, this type of innovative company has transformed the economic structures of many countries, establishing itself as a major driver of growth.

To achieve this growth driven by startup development, each country must implement a robust support ecosystem capable of boosting the success, competitiveness, and sustainability of these startups.

Since 2020, Algeria has actively pursued this goal by adopting a set of regulatory and legislative measures aimed at promoting its startup ecosystem and transforming its rentier economy into a knowledge-based economy.

In 2020, Algeria appeared for the first time in the global startup ecosystem rankings published by the "Startup Ranking" platform. Among the world's top 1,000 cities, the capital Algiers ranked 968th, while in 2025 it occupied the 543rd position, marking a notable improvement of 425 positions. Although Algeria is not yet among the world's top 100 startup ecosystems, it is approaching this level, currently ranking 111th worldwide.

This significant progress results from the efforts undertaken by the different actors in the Algerian ecosystem, primarily the government.

To foster the development of a startup ecosystem conducive to the realization of innovative projects in Algeria, adopting a comparative approach is essential to draw inspiration from countries that have made notable advances in this field, while taking into account Algeria's specific social, cultural, and religious characteristics in order to derive solutions and recommendations compatible with the national context. From this perspective, our study focuses on the United Arab Emirates, an Arab and Muslim country that has

achieved remarkable global development and serves as a strong success model, ranking 21st worldwide and 1st in the MENA region in the 2025 Global Startup Ecosystem Index.

At the Maghreb level, the analysis focuses on presenting the components of the startup ecosystem in Morocco and Tunisia. These two countries have consistently ranked among the world's top 100 ecosystems for several years and may serve as relevant benchmarks, particularly because they share several similar characteristics with Algeria.

Research Objectives

This paper aims to analyze the startup ecosystem in Algeria by presenting its key components, identifying its major challenges, and proposing context-specific avenues for improvement.

The analysis adopts a comparative approach, drawing on the experiences of Arab countries that are better positioned than Algeria in this field, such as the United Arab Emirates, Morocco, and Tunisia.

II. CONCEPTUAL FRAMEWORK : STARTUP AND STARTUP ECOSYSTEM

In this section, we define the main concepts related to our research theme.

2.1. Definition of a Startup

There is a diversity of viewpoints among economists and business leaders regarding the precise definition of a startup. However, most converge on certain fundamental elements that can be used to construct a definition capturing its main characteristics.

Drawing from Graham's [1] definition "a startup is a company designed to grow rapidly" this definition emphasizes a fundamental characteristic of startups : rapid growth.

Along the same lines, Blank explains that this growth is primarily based on the effort made to develop a business model capable of turning a simple idea into a viable company, one that is profitable, repeatable, scalable, and adaptable for deployment at a large scale in other locations [2]

For Eric Ries, a startup is " a human institution designed to create a new product or service under conditions of extreme uncertainty " [3].In this definition, Ries emphasizes human capital as the source of ideas and problem-solving. These ideas must be innovative, enabling the creation of new growth opportunities via new products and/or services.

A startup does not innovate just to innovate, rather, the goal is to deliver products or services that a large number of customers genuinely need. The quality of these offerings must

meet those needs as quickly as possible in an uncertain environment. This uncertainty means that the company faces multiple risks (not always major ones), which are often unpredictable. Consequently, startups require significant flexibility to navigate such challenges and achieve rapid growth.

2.2. The Startup Ecosystem: Definition and Components

The study of startups necessitates extending the scope of analysis to their external environment which strongly influences their success or failure. In other words, it involves examining their ecosystem and its main components.

Since the early 2010s, the startup ecosystem concept has emerged as a derivative of the entrepreneurial ecosystem-particularly following key research such as Isenberg [4] and Stam [5]. To date, various definitions of startup ecosystems exist.

According to Lauzikas et al. [6] "a startup ecosystem comprises a set of internal and external dimensions- internal (the startup itself, its employees, and network of actors) and external (events, programs, investment funds, educational institutions, employment agencies, society, and public institutions) - that in one way or another contribute or can contribute to a startup's development".

According to AI Maâche and Derraz [7], a startup ecosystem consists of "an interconnected set of entrepreneurial actors who work together formally and informally to integrate, arbitrate, and manage performance in the local entrepreneurial environment".

In general, the startup ecosystem can be described as the set of tangible and intangible elements whose interactions-localized in a physical or virtual environment-influence the creation, growth, sustainability, and startups performance.

The components of a startup ecosystem vary from one country to another. A favorable ecosystem is one that promotes startup culture while helping, assisting, and supporting startups in their growth, and offering them new opportunities.

III. STATISTICS ON STARTUPS AND STARTUP ECOSYSTEM WORLDWIDE

This analysis is based on statistics and reports published on the "Startup Blink" platform as well as on the "Startup Ranking" map.

This platform serves as a global reference for evaluating startups and their ecosystems, ranking ecosystems across 100 countries and 1000 cities worldwide. Its rankings are based on a total score calculated as the sum of three sub-scores: the quantity score, measured by the number of startups and various support organizations within the startup

ecosystem, the quality score, measured by the presence of unicorns and R&D centers in large technology firms, the amount of private investment in startups and the organization of global startup events, and the startup business environment score, which takes into account general indicators related to the startup environment, such as economic and regulatory policies, the degree of freedom given to startup founders, and the quality of infrastructure.

According to "Global Startup Ecosystem Index report" by startupBlink [8], on a global scale the United Arab Emirates have achieved remarkable progress : advancing from 43rd place in 2020 to 21st in 2025, with their score rising from 3.613 to 16.358. This corresponds to an increase of 12.75, though the country still lags significantly behind the top two global ecosystems, the United States and the United Kingdom with scores of 254.050 and 70.743 respectively in 2025.

In the MENA region, the United Arab Emirates serve as a model of success, having maintained their first-place position since 2020.

Among the five Maghreb countries, Tunisia and Morocco obtained positions in the top 100 startup ecosystems. Tunisia's ranking declined from 77th in 2020 to 90th in 2024 before gaining 8 places in 2025 to reach 82nd. Similarly, Morocco moved down from 83rd in 2020 to 92nd in 2024, then climbed back to 88th in 2025 with a modest score below 1 (around 0.7).

Algeria does not rank among the top 100 countries, however, its startup ecosystem shows strong potential to be included in future editions. In 2025, it holds the 111th position worldwide, gaining 4 places compared to 2024.

In the ranking of the top 1,000 cities, Algiers occupied the 543rd position in 2025, advancing 425 places from 2020 (968th). Nevertheless, it remains well behind Tunis which is ranked 327th. Morocco and the UAE each have three cities in this ranking: for Morocco, Casablanca (317th), Rabat (811th), and Agadir (868th); for the UAE, Dubai (44th), Abu Dhabi (175th), and Sharjah (762nd). In addition, U.S. cities account for 240 of the 1,000 ranked cities.

In terms of startup creation, Algeria has made significant progress, ranking second in Africa and being listed among the global top 20 in 2024 with 812 startups, a figure significantly higher than those of Morocco and Tunisia. Notably, before 2020, Algeria did not appear in the "Startup Ranking".

IV. PRESENTATION OF THE UAE, MOROCCO AND TUNISIA ECOSYSTEMS

In this section, we present the main components of the startup ecosystems in the three Arab countries under study.

4.1. United Arab Emirates : A Success Story

The UAE has long aimed to become one of the world's most innovative countries and a top global destination for foreign investors, startups, and innovative projects. According to global competitiveness reports synthesized by the UAE Ministry of Finance, the country in 2024 ranked first worldwide across 223 indicators, placing among the top 5 countries in 444 indicators and among the top 10 for 661 indicators [9]

The support initiatives implemented by the UAE government for startups and innovative enterprises represent one of the key success factors in its startup ecosystem, which has become a major driver of economic development in the region. These initiatives are diverse. We begin with the financial dimension, which notably includes the following mechanisms :

Funding and support options in the UAE

Startups and innovative enterprises have access to several mechanisms, especially :

-Government funding programs particularly at the early stages of startup development such as :

- Mohammed Bin Rashid Innovation Fund : launched in 2015, it offers two programs for high-potential innovators. The first is an acceleration program that provides access to guidance from top global experts adapted to the project's needs. The second is a guarantee program that enables government-backed funding [10].

- Khalifa Fund : Established in 2007, it includes a dedicated startup scheme among its SME programs, offering various types of loans with funding limits scaled to company size. It also provides training and mentoring services [11].

- Emirates Development Bank : A 100% state-owned bank launched in 2015, it offers tailored financial solutions for startups and SMEs suited to their specific needs [12].

Other funding options that provide larger amounts of capital include :

-Venture capital firms, such as :

- Wamda Capital : Established in 2014, it raises funds from investors to support high-potential startups and ranks among the most active VC firms in the Middle East.

- BECO Capital : Founded in 2012, it targets the MENA region's most talented and innovative founders and is considered the most experienced in the area.

-Crowdfunding platforms : have long been present in the UAE, this funding mode gained traction from 2014 when Crowdrise registered with the "UAE Securities Authority" as the country's first crowdfunding platform [13]

-Business angels : several operate there, including Dale Ventures, GrowValley, Vault Investments, Turn8, and Yard… all of which invest in high-potential UAE startups.

Support structures

- The UAE is home to an extensive network of public and private **incubators and accelerators** that provide support, mentoring, funding and networking opportunities such as Dubai Future Accelerators, Zone 2071, In5, Sheraa and Techstars.

- Notably, **technology parks** play a vital role by offering physical infrastructure tailored to tech startup needs, including research centers and high-tech labs. These parks often partner with academic institutions. Among the most prominent are Hub71, Dubai Silicon Oasis and Khalifa University Innovation Park.

- **Free Zones** : the UAE comprises more than 40 free zones, attracting foreign investors, startups and companies with compelling advantages : 100% foreign ownership, full capital repatriation, zero corporate tax, no import/export duties, streamlined licensing, robust infrastructure and competitive costs [14]. The most well-known free zone is Dubai Internet City [15], launched by the Dubai government in 1999. As the Middle East and North Africa's largest IT hub, it houses over 3,500 clients, including global tech giants such as Google, Microsoft, Facebook, Kaspersky, Canon, Huawei and Careem, along with more than 29,000 professionals and entrepreneurs.

The UAE has introduced multiple strategies and created a range of support organizations.

- One of these is "the National Innovation Strategy ", launched in 2014 to cultivate a flourishing innovation ecosystem. On the physical capital front, it drives the creation of innovation centers, R&D facilities, and support institutions, while providing advanced tech equipment and infrastructure. It also mandates selected government entities to pursue research and innovation projects. In terms of human capital, the strategy fosters a national culture that embraces entrepreneurship and innovation through public-private-media partnerships, as well as through the introduction of new educational curricula and training programs focused on innovation [16].

- Organizations have also been established to support the creation and growth of startups as well as small and medium-sized enterprises (SMEs), particularly those owned by Emirati entrepreneurs, among them are the Sharjah Foundation for Innovative Entrepreneurs, Sharjah Entrepreneurship Center, Saud Bin Saqr Establishment for Young Businesses, and

Mohammed Bin Rashid Establishment for SME Development [17].These entities deliver advisory services, funding access, and hands-on growth support.

- The UAE government has established a robust **regulatory framework**, along with financial facilities and tax incentives [18] to ensure business stability and enhance investor confidence. For example, in 2021, the Commercial Companies Law was updated through Decree No. 32 of 2021[19]. This was followed by reforms to the bankruptcy law under Decree No.51 of 2023 [20], as well as adjustments to corporate tax rates introduced through Decree No.47 of 2022 [21].

- The UAE has captured worldwide attention with its vibrant startup ecosystem by hosting high-profile **events**. These include "Expo 2020", where the UAE was selected over Brazil, Turkey, and Russia to host the World Expo "The Annual Investment Meeting 2024" (13 th edution), "GITEX Global 2025", "Global Startup Summit 2025" and "Arab Startup Expo 2025 ".

- The UAE also pursues **global collaborations and partnerships** to attract international startups and drive innovation. Notable initiatives include the Global Blockchain Challenge competition and the Global Manufacturing and Industrialization Summit event.

Thanks to the UAE government's concerted efforts and strategies, the region has achieved substantial progress toward its goals. Its startup ecosystem is thriving, characterized by a strategic location, political stability, advanced physical and digital infrastructure, a diversified knowledge-based economy emphasizing digitization and tech innovation, robust support for novel ideas, easy access to capital, a business-friendly environment and investor attracting policies. In other words, it offers a highly conducive ecosystem for the growth and development of startups.

4.2. Morocco

The Moroccan government has actively promoted startup ecosystem growth through diverse support initiatives.

Access to funding

Morocco aims to expand financing options for startups and innovative companies.

National Guarantee and Enterprise Financing Company : Operates under the " Tamwilcom" brand as Morocco's primary state-backed financing mechanism and sole public guarantor for business loans [22].

In 2017, it launched "Fonds Innov Invest" a comprehensive scheme targeting funding for startups and innovative projects especially in their early development stages [23].

In 2024, Tamwilcom signed several partnerships to support startups and the innovation ecosystem including : Insurance Supervisory Authority to promote InsurTech startups, Mohammed VI Foundation for Science and Health (FM6SS) supporting HealthTech startups and projects, Epson Francophone Africa and DomCom easing startups access to cutting-edge technologies, the United Nations Development Programme (UNDP) in Morocco to strengthen the promotion of green entrepreneurship [24].

Other funding sources

- Morocco also features several **investment funds** dedicated to startups. The two main ones are Maroc Numeric Fund and UM6P Ventures, affiliated with Mohammed VI Polytechnic University (UM6P)

- **Business angel** activity has long existed in Morocco though it remains largely unstructured. Among the most prominent networks are the Moroccan Business Angels Network MOBAN (2019), the MNF Angels club and the Angels 4Africa network (2019).

- **Crowdfunding platforms** : five platforms stand out in funding projects linked to Morocco : Wuluj in Morocco (2018), Afineety in Morocco (2014), Atadamone in France (2014), Smala & Co in France (2004) and Cotizi in Morocco (2014). However, Morocco's crowdfunding legal framework remains under development and still imposes certain limitations on financing [25].

Startup support structures

Maroc PME : Established in 2002, this agency develops programs to promote entrepreneurship. Among them is TATWIR STARTUP launched in 2021 in partnership with the Ministry of Industry and Morocco's startup ecosystem federation. It offers comprehensive support for industrial startup project holders. The Ministry of Industry Trade Green and Digital Economy has also set up incubators and accelerators nationwide to assist startups [26].

The number of incubators and accelerators is increasing. Morocco is also home to university-based incubators, private ones, and technology hubs, with the most significant including :

Public Accelerator "StartUp Morocco": certified by the Central Guarantee Fund, it offers programs such as [27] :

- StartUp Morocco Booster Program : Dedicated to startups from Morocco, the MENA region and Africa. Designed to support high-potential startups in gaining access to capital and penetrating national and international markets.

- StartUp Morocco 2030: An incubation program in partnership with Innov Invest, designed to support high-potential Moroccan startups while aligning their ambitions with Morocco's strategic goals through 2030.

Impact Lab: a private incubator founded in 2016 which has supported over 250 startups and 25 innovation projects across Morocco and 17 African countries [28].

-Collaboration spaces and tech hubs such as "Casa Technopark", " New work Lab", "1337 Coding School" and "Technopark" further strengthen this ecosystem.

-Morocco hosts various **events** to foster an entrepreneurial spirit and digital transformation in Africa, including "GITEX Africa Morocco" 2025 (3rd edition), "Africa Startup Forum" 2025 and "African Startup Expo" 2025.

4.3. Tunisia

The Tunisian startup ecosystem has experienced remarkable progress in recent years and has become one of the leading innovation hubs in Africa, particularly in the fields of artificial intelligence, big data and the blue economy sectors that attract both local and international investors. The main characteristics of this ecosystem are :

Access to financing

Smart Capital is a management company created by the Tunisian government in 2019 and is responsible for managing key investment funds such as [29].

- INNOVATECH : a specialized fund targeting innovative SMEs over two years old.

- COINNOOV : focuses on R&D and innovation projects, with half of them incorporating environmental sustainability.

- ANAVA : dedicated to startups, Tunisia's first fund-of-funds launched in 2021. One of its main objectives is to invest in over 13 investment funds targeting startup financing across all development stages, with a planned size of € 100 million.

Smart Capital also oversees implementation of " Startup Tunisia" national initiative, approved by the Financial Market Council, which is structured around three main pillars [30]:

- Startup Act : a legal framework for startups launching or expanding in Tunisia, detailing the procedures for obtaining the label and associated benefits.

- Startup Invest : an investment framework dedicated to startups, based on a fund- of -funds model, a guarantee mechanism in case of failure and an incubator to support investment funds success.

- Startup Ecosystem : a support structure for all relevant parties involved in supporting startups. It aims to develop and energize the startup ecosystem while fostering local and international networks.

Creentech Tunisia Program [31] : created by " Deposits and Consignments Fund" and "Smart Capital", funded by "the European Union" and implemented by "CITET", " the Ministry of Economy and Planning" and "the Ministry of Environment". This program targets startups and innovative SMEs active in ecological transition to green economy. It facilitates funding access through two instruments, including VAIR, which supports 32 Creantech startups in developing their proof of concept (POC), with a maximum of 75,000 TND per project : 70% as grants and 30% as repayable advances.

Flywheel Fund [32]: a fund created to support the development of startups and ecosystem actors that support startups. It offers two channels for entrepreneurs and startups : "AIR" Early-stage funding for PoC development, providing 30,000 TND (60 % grant, 40% repayable advance), the second instrument "AIR2" provides support in the seed stage through a grant of 200,000 TND, during the phase where startups are preparing to raise Series A funding (> 1 million TND) and transition into scale-ups. Flywheel also provides two channels targeting Startup Support Organizations (SSOs), the first is " DEAL": a grant up to 200000 TND to help SSOs launch new startup support programs. The second "SAIL" a grant aimed at strengthening the sustainability of certified SSOs that demonstrate the effectiveness of their support programs.

Business Angels: in Tunisia, they are not numerous. The most well-known are :

-Carthage Business Angels : the leading network, established in 2010.

-DAYMA Business Angels : Tunisia’s first women-led business angel network, launched in 2019.

Incubators and Accelerators for Startups : the private sector also contributes significantly to Tunisia’s startup ecosystem through organizations like :

-Wiki Startup : Tunisia’s first private incubator, launched in 2011.

-Connect’Innov : an incubator and accelerator playing a key role in supporting health technology startups.

Tunisia also hosts around 12 **free zones**, including those in Tunis, Sousse, Radès, Monastir and El Mourouj, which primarily focus on ICT and innovative startups.

- Tunisia's startup ecosystem benefits from substantial backing by international organizations, such as : the World Bank through "The Innovative Startups and SMEs for Tunisia project", the Italian Agency for Foreign Trade through 5 editions of "the Lab Innovation for Tunisia Startup 2025" training program.

- Tunisia hosts numerous **events** to boost its startup scene, such as "Tunisia Ecosystem Week" (2024), " Tunisia Digital Summit " 9th edition (2025), " Tunisia Global Forum" (2025) and " Big Tech Africa Forum" 2nd edition (2025).

V. THE CURRENT ALGERIAN STARTUP ECOSYSTEM CONTEXT

- Since 2020, the Algerian regulator has implemented a series of measures in favour of startups to build a supportive ecosystem. The private sector has also contributed to this progress :

- This transformation began with establishing the position of " Minister Delegate to the Prime Minister for the Knowledge Economy and Startups", via Executive Decrees No. 20-306 and 20-307 [33]. Key support bodies were also launched, including :

- The National Labeling Committee for "startups", "innovative project" and "incubators" was established under the Ministry of the Knowledge, Economy, Startups and Micro-Enterprises by Executive Decree No. 20-254 of 2020 [34]. The application process for obtaining the startup label has been simplified online through the Startup.dz platform, providing access to funding, tax incentives and support services.

- Algeria Venture: first state accelerator was established via Executive Decree No. 20-356 of November 2020 [35] As a public entity for promoting and managing startup support structures, it plays a pivotal role in ecosystem development. For example, in 2024, it executed the Algerian Startup Learning Expedition Program overseen by Ministry of the knowledge Economy, Startups and Micro-Enterprises. This involved organizing 10 international expeditions for 265 startups to dynamic ecosystems like South China, Korea and the United States [36].

- Algeria has seen a sharp rise in accelerators and incubators, particularly those affiliated with universities, signaling a strong commitment to fostering startups and entrepreneurship.

For startup financing, the government established :

- The first public venture capital fund, ASF "Algerian Startup Fund ", dedicated to labeled startups, created in October 2020 [37].

- In 2021, via Executive Decree No. 21-303, a Startup Ecosystem Support and Development Fund was instituted as a special allocation account No. 302-150. The fund is responsible for incubation, startup financing and ecosystem promotion [38].

- **Other financial alternatives** are available to Algerian Startups :

- **Crowdfunding** : The most well-known platforms include : " Twiiza " and " Chriky" were created in 2013 by Algerians in France before any legal crowdfunding framework existed in Algeria [39] [40]. " Ninvesti" the third most active platform, was launched in 2020 as Algeria's first fully operational, having secured official COSOB approval to operate legally [41].

- **Business Angels** in Algeria [42]

The main active network is Casbah Business Angels, established in 2012. Others, such as "Business Angels Algeria Diaspora" and " Markitor Business Angels", maintain more limited visibility regarding their operations.

Other ecosystem actors

The Ministry of **Higher Education and Scientific** Research has made significant efforts to bridge academia, entrepreneurship, and economic growth through concrete initiatives :

- In September 2022, Ministerial Order No.1244 created the National Committee for the Coordination and Monitoring of Innovation and University Incubators.

- A new mechanism for " university-startup diploma ", "the university diploma-patent of invention" and "student entrepreneur diploma" was introduced via Ministerial Order No. 1275 of September 2022, later amended by Decree No .008 of February 2025. Key changes include renaming the university-startup diploma to "diploma-project for economic enterprise".

- In December 2024, the Minister of Higher Education signed a partnership agreement with the Algiers Stock Exchange, which aims to facilitate access to funding for student entrepreneurs [43]. Notably, for the first time, the Algerian startup Moustachir was listed on the Algiers Stock Exchange on January 14, 2025 [44].

- On October 30, 2025, the Minister announced the creation of Algeria's first university investment fund, structured as a holding company at the University of Algiers 3 with an initial capital of 120 million DA [45].

Regulatory framework

- A new corporate form, Simplified Joint-Stock Company (SAS), was introduced in 2022 through law No. 22-09, amending Ordinance No. 75-59 of 1975 on the Commercial Code. This form is intended for labeled startups, it offers key advantages : no minimum capital requirement and no minimum number of shareholders. However, SAS entities cannot list shares on the stock exchange or make a public equity offering. [46].

- Crowdfunding has begun to emerge following Article 45 of the Supplementary Finance Law of 2020, which established the status of Participatory Investment Advisor (CIP) [47].

- Its mission involves creating and managing online participatory investment advisory platforms, while channeling public funds into crowdfunding projects. Afterwards, Official Journal No.68 of 2023 published the September 4 Order approving COSOB Regulation No.23-01, which sets the conditions for approval, operation and control of CIPs [48].

New tax incentives

The 2025 finance law introduced fresh fiscal incentives [49]:

- Tax reductions provided for in Article 10 (up to 30% of taxable profits, with an annual cap of 200 million DZD) intended for companies that promote and invest in R&D activities or participate in open innovation programs in collaboration with startups and incubators.

- Exemptions from transfer duties for the acquisition of assets or industrial real estate are also granted to labeled "startups" or " incubators" in accordance with Article 39.

- Exemptions from registration duties when creating labeled " innovation project" companies, as stipulated in Article 41.

- IRG or IBS tax exemptions for 2-4 years from the date of obtaining incubator label status in accordance with Article 142.

Entrepreneurship support devices

Algeria's policy to promote business creation has established several mechanisms through the National Unemployment Insurance Fund created in 1994, the National Agency for the Management of Microcredit established in 2004, the National Agency for Youth Employment Support launched in 1996 and transformed in 2020 into the National Entrepreneurship Support and Development Agency (NASDA).

In 2023, Algeria launched the National Agency of Auto- Entrepreneurs (ANAE) and its platform www.anae.dz targeting independent workers in informal lucrative activities. This platform issues " the auto-entrepreneur card", enabling integration into the formal economy, social security coverage, and tax benefits under Article 18 of the 2024 Finance Law [50].

ANAE's organization and operations, the list of activities eligible for the self entrepreneur status, and national register enrollment procedure are outlined in Executive Decrees No. 23-196 and 23-197 [51].

Additionally, Bank of Algeria Note No. 2024/01 permits auto-entrepreneurs to open commercial bank accounts using their ANAE card, ID, and proof of address [52].

Algeria organizes numerous events that contribute to the promotion of the entrepreneurial ecosystem, including: African Startup Conference (ASC) 2025 (4th edition), Algeria Startup and Digitalization Fair 2024, Global Entrepreneurship Week 2025, Algeria International Startup Fair 2025, National Forum of University Incubators 2025, Algeria Venture Summit 2025, Algerian Startup Challenge 2025, IMLabOp 2025 International Exhibition.

During the 2025 African startup conference in Algiers, Algeria announced the creation of a pan-African fund to finance African startups, solidifying its regional leadership in the entrepreneurial ecosystem [53].

The signing of multiple agreements benefiting startups, such as the agreement signed in April 2025 between the public television establishment and Algeria Venture, granting startups a 70% discount on advertising expenses with staggered payment of the remaining 30% [54].

In July 2025, an agreement was signed between the Ministry of Public Works and Basic Infrastructure and the Ministry of the Knowledge Economy, Startups and Micro-Enterprises which established an inter-ministerial commission to integrate startups into infrastructure projects such as smart construction site management via digital innovation and applied research [55].

VI. RESULTS DISCUSSION AND PROBLEM IDENTIFICATION

In this analysis, we have examined the main challenges affecting the startup ecosystem.

6.1. Internet speed challenges

In Algeria, although there have been significant improvements in fixed and mobile internet speeds in recent years, the country still lags behind international standards.

According to the Speedtest Global Index rankings of January 2025, Algeria ranks 89th out of 104 countries for average mobile internet speed at 32.44 Mbps, and 137th out of 152 countries for fixed broadband speed at 16.16 Mbps.

While Algeria recorded these modest performances, the UAE led globally in mobile internet speed at 545.94 Mbps and ranked second worldwide in fixed internet speed at 310.05 Mbps. Morocco ranked 61st out of 104 countries with an average mobile speed of 62.24 Mbps and 116th out of 152 for fixed broadband at 35.98 Mbps, when Tunisia placed 83rd out of 104 for mobile internet speed at 40.66 Mbps and 144th out of 152 for fixed at 11.86 Mbps [56].

In Algeria, slow internet speeds and frequent service interruptions can be attributed mainly to inadequate infrastructure and equipment, as well as uneven high-speed coverage across the territory. Coverage remains especially limited in rural areas, which account for nearly a quarter of the population (24.5%) [57].

This issue has a negative impact on many key elements of the startup ecosystem. Algeria needs to invest more in infrastructure and the quality of internet services. In January 2025, the Minister of Posts and Telecommunications urged doubling efforts to migrate subscribers from copper networks to fiber optic technology [58].

Addressing this connectivity issue would also help reduce several other challenges. Poor internet connectivity affects startups throughout their lifecycle, from the success and maturity of the idea (particularly in fields where reliable connectivity is essential) to the performance of online sales and electronic payments for both domestic and international transactions, access to online crowdfunding platforms, global visibility and competitiveness of startups. It also impacts the ability to attract local and international talent and slows down the effectiveness of the transition toward digitalized public services aimed at reducing bureaucracy and paper-based administrative processes in Algeria.

6.2. E-Payment Challenges

In October 2025, Algeria had a significant number of payment cards in circulation, with 81% being Edahabia cards and 19% CIB cards, reflecting a 7.70% increase from December 2024.

In addition to the uneven internet coverage and insufficient network infrastructure mentioned above, e-payment issues at the national level also arise from Algerians' stronger preference for cash over online payments. Although bank card usage is growing, it primarily serves cash withdrawals, while electronic payments still make up only a small portion of transactions. The few electronic transactions that take place mainly involve administrative services, such as university registration fees, BEM and Baccalaureate exam payments,

AADL rent payments, water and electricity bills, internet plans, and buying stadium tickets. Since 2020, the latter has been conducted exclusively via bank cards [59].

On the global front, the main challenge relates to international transactions (whether sending or receiving funds to and from foreign countries). First, the Edahabia card remains mainly confined to domestic transactions and does not operate like a standard Visa or Mastercard cards, which support direct international use.

Some CIB cards do allow online international payments, but this depends on the issuing bank and card type, which must be linked to networks such as Visa or Mastercard. High fees often make these services poorly suited to startups. Meanwhile, international payment platforms like PayPal integrate efficiently into standard banking systems in many countries. Users can connect their PayPal account to a local bank account or debit/credit card, receive funds on PayPal, transfer them to their bank account, and make online purchases using their card. This is not the case in Algeria, where the service appears to be accessible online. However, in practice, customers cannot officially link an Algerian bank account to PayPal for receiving and withdrawing funds in Algerian dinars (DZD).

Algeria faces banking and regulatory restrictions, including tight controls on currency outflows and complex foreign exchange procedures. These challenges are compounded by other obstacles such as the slow implementation of legislative reforms, uneven quality of digital infrastructure, limited banking digitization, the influence of black-market exchanges, and currency conversion limits. Resolving these issues would enable many startups and freelancers to expand their businesses, diversify funding sources, grow their customer base, and gain access to international markets.

6.3. Limited Access to Financing

Securing traditional bank financing proves challenging for startups, as they often lack robust guarantees to demonstrate loan repayment capacity. Algeria could address this by establishing a dedicated development bank for startups, tailored to their unique characteristics, following the example of the Emirates Development Bank launched in the UAE.

For other financing types, particularly venture capital, Algeria's primary investment fund focused on startups funding remains the public Algerian Startup Fund (ASF), established by the state in 2020. According to the statements by its Chief Executive Officer, after one year of operations, out of 247 funding applications received, the organization took on 65 projects [60].

In 2025, after five years of activity data from the ASF website indicate that around 350 startups and project holders expressed interest in the fund, with 139 applications were

processed resulting in funds raised of approximately 1.2 billion dinars to support startups across 22 wilayas [61].

Despite this notable commitment to financial support, the funding amounts remain inadequate relative to actual needs, making it necessary to diversify sources of investment funding, both public and especially private funding. Crowdfunding relies on online platforms that collect funds from a large number of participants who contribute small amounts of money and may become shareholders or contributors. While this form of financing is becoming increasingly widespread worldwide, this is not yet the case in Algeria, particularly due to the e-payment constraints mentioned above, as well as the relatively recent legal framework set by Article 45 of the 2020 Supplementary Finance Law and the Decree of September 4, 2023, published in Official Journal No.68.

In many countries, business angels provide startups with capital, networks, and guidance, particularly during the seed stage. In Algeria, however, their presence stays quite limited due to the absence of a specific regulatory framework and tax incentives, coupled with high risk aversion : investors favor safer options like real estate over startup ventures.

Moreover, many project initiators remain wary of certain funding types due to religious concerns. Drawing on successful international Islamic finance models could help enhance startup funding in Algeria.

6.4. Bureaucratic, Administrative and Regulatory Issues

Despite the considerable efforts made over recent years to reduce bureaucracy and streamline procedures, processes remain cumbersome, and the regulatory framework stays overly complex. Legal texts still lack the precision, clarity and consistency needed. These barriers directly impact time, a critical factor for startup success particularly when securing funding, acquiring equipment, and attracting investors.

6.5. Cultural and Educational Challenges

Until recently, entrepreneurial culture was largely absent from Algerian society. Families typically did not encourage their children to pursue entrepreneurship or launching startups, favoring instead the conventional career path seen as more secure and less risky.

The issue also concerns Algerian investors, whose lack of understanding of startup specificities makes them more reluctant to fund them.

Banking culture is still underdeveloped with many citizens lacking accounts or cards, highlighting a significant gap in financial and digital literacy, particularly in fintech. Moreover, there is a lack of awareness initiatives aimed at presenting the potential of startups

and the role of the various ecosystem stakeholders. These initiatives should be adapted to the information needs of different segments of society, and the use of media could greatly facilitate this process.

VII. CONCLUSION

This study aimed to identify best practices adapted to the Algerian context, drawing on experiences from other Arab countries on the international stage to contribute to the growth of the national startup ecosystem. The article highlights key factors shaping a supportive startup environment, using the United Arab Emirates (UAE) model as a benchmark, in parallel with those of two fellow Maghreb nations Morocco and Tunisia which share Algeria's language, religion and economic structure.

Replicating one country's ecosystem in another proves challenging. Still, we can conclude that a blend of elements is essential to build an entrepreneurial environment fostering the emergence and growth of startups. These include strong public authority commitment and support, robust private sector involvement, a well-structured regulatory framework, solid infrastructure, diverse funding sources and active private investment. Universities also play a vital role, particularly through innovation support and R&D collaboration with research centers and public and private actors. This requires numerous incubators, accelerators, co-working spaces, tech hubs, international partnerships and frequent entrepreneurial events that help founders build strong networks.

Following our review of Algeria's startup ecosystem, it is progressing positively, thanks to government efforts clearly focused on promoting entrepreneurship and startup ecosystem.

Despite these significant advances, many changes still remain to be implemented. We have highlighted the barriers hindering a supportive startup ecosystem, including infrastructure and internet speed issues, e-payment challenges, limited financing access, bureaucratic and regulatory hurdles, and cultural and educational obstacles. Based on this analysis we propose recommendations to foster a favorable ecosystem for startups. They are as follows :

Recommendations for ecosystem development

✓ Prioritize criteria from international startup ecosystem rankings, such as StartupBlink, alongside innovation ecosystem indicators.

✓ Stakeholders must collaborate equitably for an effective ecosystem. For instance, focusing solely on training skilled student entrepreneurs while neglecting funding access or ICT infrastructure proves counterproductive.

✓ Regulatory framework: addressing Algeria's startup ecosystem challenges requires updating the regulatory framework to encompass all relevant sectors and institutions. Procedures should be simplified and digitized with legislation achieving greater coherence and being aligned under a unified strategy without internal contradictions.

✓ Media's key role : to extend entrepreneurial culture beyond universities and reach all Algerians (citizens, project initiators and investors) media engagement must continue. Programs like avec moi dans mon projet (2025), startup academy (2025), ibtikar (2022) and startup (2019) deliver advice , mentorship and funding to startups and innovative projects. Such initiatives deserve encouragement and expansion. Media should develop programs to educate audiences on financial inclusion, digital literacy, highlighting ICT benefits, e-payment security, traceability and convenience, plus e-commerce advantages. Also feature successful entrepreneurs sharing their journeys, triumphs and hurdles to inspire youth and motivate investors to back such ventures.

✓ Prioritizing teaching quality is essential, starting with a sector study to pinpoint issues and tailor corrective measures. Key steps include incorporating entrepreneurship and innovation content, bolstering practical training components, providing ongoing teacher development and supplying modern equipment. This approach would boost sector performance, spark innovative ideas and make the system more appealing to students and international researchers.

✓ Strengthening ties between the private sector, universities, research centers, and incubators is essential to unlocking new opportunities for startups.

✓ Provide tax incentives and facilitations for public and private companies that invest in R&D and innovation, support startups or partner with incubators.

✓ Implement measures to attract foreign direct investment (FDI).

✓ Enhance Incubator Performance:

- Improve training quality and offer personalized mentoring.

- Build partnerships with international incubators to transfer skills and expertise.

- Establish regional hubs to connect incubators, promote the sharing of best practices and track performance metrics like startup survival rates, funding raised and jobs created.

- Create as many incubators, accelerators, technology support centers, innovation hubs and entrepreneurship development centers as possible across all wilayas to address territorial disparities.

✓ Develop more funding alternatives for startups, particularly by establishing a dedicated bank offering financing tailored to their specific needs. This should also involve leveraging Islamic finance and diversifying investment funds, not just public ones, but especially private sector initiatives.

✓ Assist startups in exporting their products to lessen reliance on hydrocarbon exports. As of 2023, non-hydrocarbon exports accounted for just around 2% of Algeria's GDP according to the World Bank (2024) [62] a tripling from 2017 levels, yet still insufficient.

✓ Infrastructure Development :

- Accelerate nationwide 5G and fiber optic deployment.

- Host startup solutions in local data centers and cloud services with robust cybersecurity policies, ensuring full data sovereignty, reduced foreign service dependency, and compliance with Law No. 18- 07 on data protection.

- Create more opportunities for startups to address gaps in the financial and banking system.

- Address the informal economy, currency conversion restrictions, access to the PayPal platform, and international use of CIB cards without requiring Visa cards.

- Provide all necessary resources to meet Algeria's National Digital Transformation Strategy (2030) goals, drawing inspiration from the UAE's experience.

- Increase R&D spending with a clearly defined strategy.

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