The Reality of the Entrepreneurship Ecosystem in the University Environment (an Analytical Study)

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Received: 22/10/2024

Accepted: 16/01/2025

Published: 30/01/2025

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Citation:

Bouderbala , M. R., Sayeh , A., & Boukhari , A. (2025). The Reality of the Entrepreneurship Ecosystem in the University Environment (an Analytical Study) . *Dirassat Journal Economic Issue*, *16*(1). https://doi.org/10.34118/djei.v16i1.4128

https://doi.org/10.34118/djei.v16i1.4128

Abstract

This study aimed to clarify the reality of the entrepreneurial ecosystem, especially within the university environment in Algeria, and to assess its performance through some global entrepreneurship indicators. Additionally, it examined the role of universities in fostering entrepreneurs and addressing the challenges faced by both the entrepreneurs and the entrepreneurial ecosystem. Research and development play a crucial role in advancing to higher levels of technology and digitization in providing goods and services innovatively. Political factors also play a critical role in stimulating the business environment and supporting entrepreneurs in establishing more startups and small to medium-sized enterprises.

The importance of this role is reflected in the clarity of the political vision of governments. Government policies aimed at supporting entrepreneurs and innovators are fundamental in stimulating startup projects

Keywords: Ecosystem; University; Entrepreneurship.

JEL Classification Codes: L26.

واقع النظام البيئي لريادة الأعمال في الوسط الجامعي (دراسة تحليلية)

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استلم في:2024/10/22

قبل في: 2025/01/16

استلم في: 2025/01/30

*** المؤلف المرسل**

كيفية الإحالة:

Bouderbala , M. R., Sayeh , A., & Boukhari , A. (2025). The Reality of the Entrepreneurship Ecosystem in the University Environment (an Analytical Study) . *Dirassat Journal Economic Issue*, *16*(1). https://doi.org/10.34118/djei.v16i1.4128

الملخص:

تهدف هذه الدراسة إلى توضيح واقع النظام البيئي لريادة الأعمال خصوصا في الوسط الجامعي في الجزائر وتقييم أدائه من خلال بعض المؤشرات العالمية لريادة الأعمال، بالإضافة إلى عرض دور الجامعة في إنشاء رواد الأعمال والعمل على تخطي التحديات التي تواجهه وتواجه النظام البيئي لريادة الأعمال، كما أن البحث والتطوير يلعبان دورا مهما في الانتقال إلى مستويات أعلى من التقنية والرقمنة في تقديم الخدمات والسلع بطرق مبتكرة كما تلعب العوامل السياسية دورا حاسما في تحفيز بيئة الأعمال ودعم رواد الأعمال لإنشاء المزيد من المؤسسات الناشئة والصغيرة والمتوسطة وتتجلى أهمية هذا الدور في وضوح الرؤية السياسية للحكومات، حيث تعتبر السياسات الحكومية الموجهة لدعم رواد الأعمال والمبتكرين من العوامل الأساسية في تحفيز المشاريع الناشئة.

الكلمات المفتاحية : نظام بيئي، جامعة، ريادة أعمال.

تصنيف JEL: L26.

Introduction:

The entrepreneurial environment or entrepreneurial ecosystem refers to the social and economic environment that impacts or supports entrepreneurship. This environment can either positively or negatively influence the success of entrepreneurial ventures. Key elements of the entrepreneurial ecosystem include investors, service institutions, and incubators which contribute to the success of entrepreneurial projects. Notable examples of successful entrepreneurial ecosystems include Silicon Valley in the United States that involved a large number of successful institutions.

Entrepreneurial ecosystems have emerged as a dynamic force playing a crucial role at the performance of startups and entrepreneurs.

From this perspective, our problem statement is formulated as follows:

- What is the reality of the entrepreneurial ecosystem within the university setting?

- **Sub-Questions:**

1. What is meant by the entrepreneurial ecosystem?
2. What is the importance of Algerian universities in supporting entrepreneurship in Algeria?
3. What is the current state of entrepreneurial activity in Algeria?

Study Hypotheses:

1. The entrepreneurial ecosystem contributes to the success of projects in Algeria.
2. There is a relation between the support provided by Algerian universities for entrepreneurship and its growth in Algeria.
3. Entrepreneurship in Algeria is experiencing significant development.

1. The Concept of the Entrepreneurial Ecosystem:

The term "ecosystem" was used for the first time in the field of biology in 1935 and was later introduced into management literature by James Moore in an article published in the Harvard Business Review.

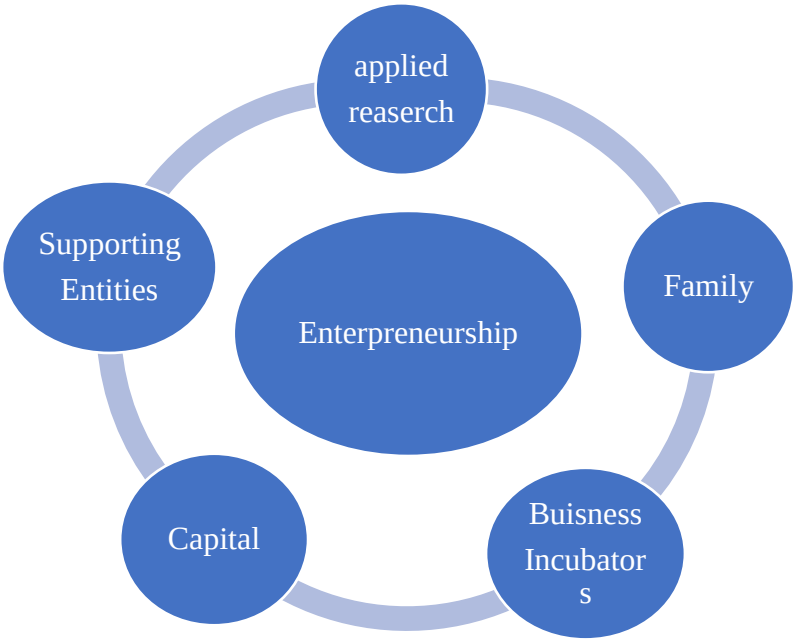
Many researchers have attempted to provide a clear definition of the entrepreneurial ecosystem, such as Ven and Van (1993), Spilling (1996), and Isenberg (2011), among others. However, their research cannot be considered definitive or complete, as it remains an evolving and dynamic field. Some of the important definitions include:

On the other hand, Kew and Kew (2011) define the entrepreneurial ecosystem as the combination of entrepreneurial institutions, resources, people, and the environment necessary to foster entrepreneurship. This system comprises elements, individuals, organizations, and entities surrounding the entrepreneur that either support or hinder their entrepreneurial efforts. These components of the entrepreneurial ecosystem can be classified into two categories:

- **Firstly** :**The Micro-Entrepreneurial Ecosystem (Ecosystem - Micro) :**

This is the system that is directly connected to entrepreneurship and interacts with the components of entrepreneurial businesses. Its presence is essential for the growth and flourishing of entrepreneurship.

Figure 01:
The Micro-Entrepreneurial Ecosystem

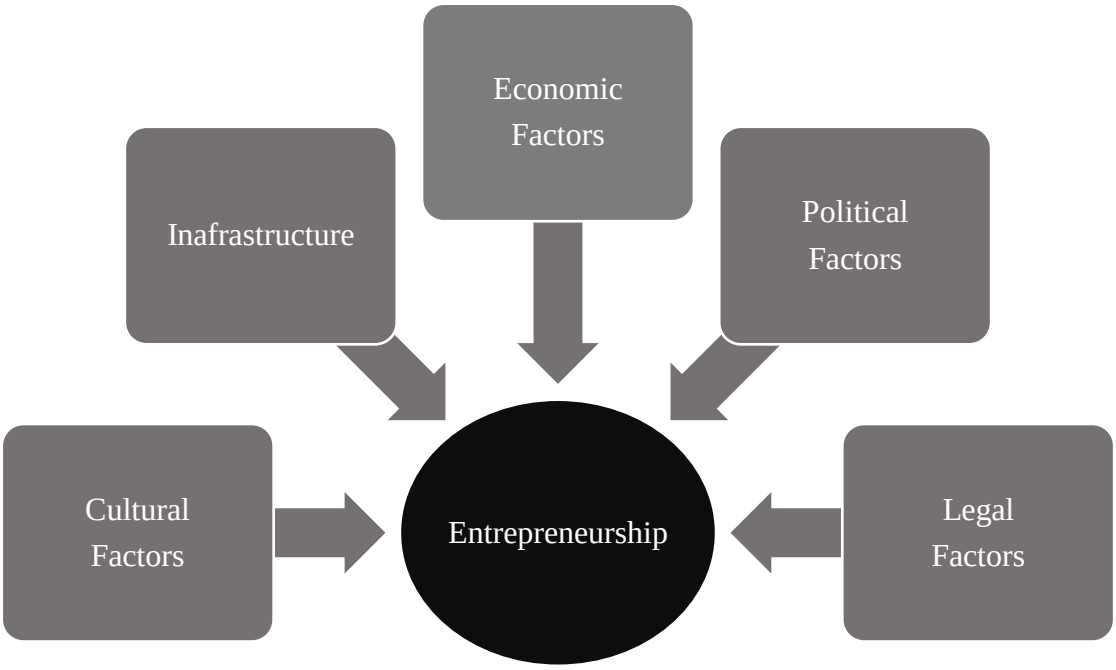


Source :(Schwarzkopf, 2015, p 38)

- **Secondly: The Macro-Entrepreneurial Ecosystem (Ecosystem - Macro):**

The macro-entrepreneurial ecosystem refers to the broader, overarching system that surrounds and influences the micro-entrepreneurial ecosystem. This macro system indirectly affects the growth of entrepreneurs and their ventures. Its presence is crucial for creating a healthy environment that supports the general direction toward excellence in entrepreneurial activities.

Figure 02:
The Macro-Entrepreneurial Ecosystem



Source: Prepared by the authors.

We can say that the entrepreneurial ecosystem consists of all the elements that support entrepreneurs and contribute to their projects, such as:

Investors; Government and its regulations; Funders; Consumers…..

The success of entrepreneurs heavily relies on the entrepreneurial ecosystem. Therefore, it is crucial to choose a startup based on addressing a significant problem faced by people within this ecosystem, ensuring that it aligns with and contributes to it rather than being an outsider.

The entrepreneurial ecosystem is a physical environment where various individuals and elements interact, influencing the emergence and development of businesses and ventures.

It can be defined as the social and economic environment or the elements that interact with and influence or support entrepreneurship. Components of this system, such as institutions, business incubators, and even virtual incubators, play a significant role. They provide entrepreneurs and their organizations with valuable opportunities to achieve their goals and succeed.

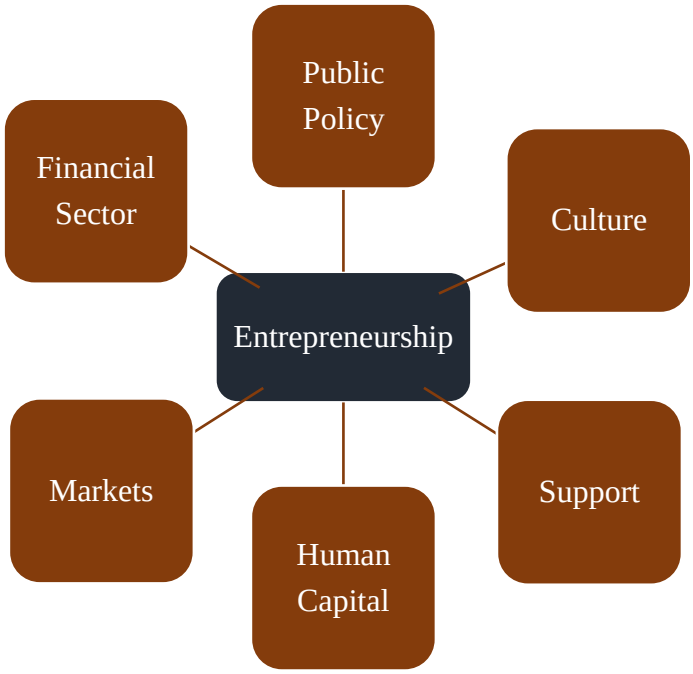
The entrepreneurial environment is a group of diverse individuals who may be potential or current entrepreneurs and organizations that support entrepreneurship. These can include institutions, venture capitalists, angel investors, banks, as well as entities such as universities, public sector agencies, and entrepreneurial activities within the ecosystem like birth rates, the number of high-growth enterprises, serial entrepreneurs, and their entrepreneurial ambitions**(Hadi & Rastkar, 2022, p31).**

The ecosystem can be represented as shown in Figure 01. It must be noted that the entrepreneurial ecosystem cannot be standardized, as each country, region, and locality has its own specific ecosystem that aligns with its particular characteristics and elements. This variation is influenced by the policies, cultures, and orientations of each area.**(Mason & Brown, 2014,p 06)**

2. Fields of the Entrepreneurial Ecosystem:

Figure 03:

The Entrepreneurial Ecosystem



Source:(Mason & Brown, 2014)

Through this figure, it becomes clear that the entrepreneurial ecosystem is complex and interconnected in its elements and components. Each component interacts with the others, whether directly or indirectly. This interconnectedness has led many researchers to provide the following observations about it:

The entrepreneurial ecosystem represents a shift from traditional economic thinking to a new economic perspective on individuals, networks, and institutions.

3 .Model Adapted From Isenberg (2011):

According to Isenberg (2011), the entrepreneurial ecosystem includes six dimensions, and each entrepreneurial ecosystem is unique in its own way. Determining the reasons for the success of an entrepreneurial ecosystem can be challenging due to the complex and varied relationships and factors involved. The effectiveness of an entrepreneurial ecosystem is closely related to the strength and effectiveness of these six dimensions.

Among the crucial elements close to entrepreneurs are business incubators, accelerators, coworking spaces, and fabrication labs (Fab Labs). These components play a fundamental role in the success of entrepreneurs by providing support and guidance for their innovative projects. The entrepreneurial écosystèmescompose of two main components:

- **Macro Environment:**Includescommonelementssuch as regulations, administrative controls, financial institutions, infrastructure, and societal culture.
- **Micro Environment:** Includes more specific components like business incubators, accelerators, coworking spaces, fabrication labs, specialized schools and universities, venture capital, the internet, and utilities like electricity.

These components collectively form the ecosystem, creating a supportive environment that fosters entrepreneurship and innovation **(فواز، 2022، ص811)**.

Higher education institutions, universities, and research centers are essential elements in the micro-entrepreneurial ecosystem. They provide students and researchers with the necessary scientific foundations to develop their technical and theoretical knowledge, helping them acquire advanced skills and expertise and gain a clear vision for the future. Integrating education on entrepreneurship principles, innovation concepts, and intellectual property within these research institutions significantly enhances students' and researchers' abilities to develop their innovative ideas and turn them into startups and small to medium-sized enterprises.

From 2011 to 2013, more than 131,000 patents were granted. In contrast, in 2023, approximately 200,000 patents were registered with the European Patent Office (EPO), representing a 3% increase compared to 2022. In the United States, 312,000 patents were granted, a 3% decrease from 2022, covering various fields such as pharmaceuticals and technology. For example, in Algeria, 307 patents were registered in 2021, according to a report. **(http://www.epo.org)**

Algerian National Institute of Industrial Property shows that the United States leads compared to Europe. This trend has led to a significant increase in the number of scientific papers published in indexed journals. For example, Mark Hard University publishes over 16,000 scientific papers annually to support entrepreneurship. Some countries set research priorities in alignment with their national science and technology plans, directing studies and research in universities and research centers according to the needs of productive sectors.

In addition to that, concerning the advanced training and graduate programs locally and internationally, there is a significant increase in spending on research and development activities as a

percentage of GDP. In developed countries, this percentage reaches 2.5%, while it does not exceed 1.2% in developing countries.

This is also related to the progress of researchers ... In developing countries, this rate is about 0.10%, while in developed countries it reaches 1.31%, more than four times higher than in developing countries. This disparity reflects the significant contribution of industrialized nations to applied innovations and inventions, with their share exceeding 11% of the total patents registered worldwide.

Expanding graduate studies is also considered a fundamental element in scientific research systems, whether in basic or applied research, as it is a crucial source of knowledge generation. Enhancing these studies is a key to success, as the economy heavily relies on knowledge and the development of a national innovation system. For example, the percentage of students pursuing diploma, masters, and doctoral studies is significant**.**

Scientific and technical disciplines account for approximately 14% in the United States and about 13% in the United Kingdom, whereas this percentage does not exceed 1.5% in developing countries**. (http://www.inapi.org)**

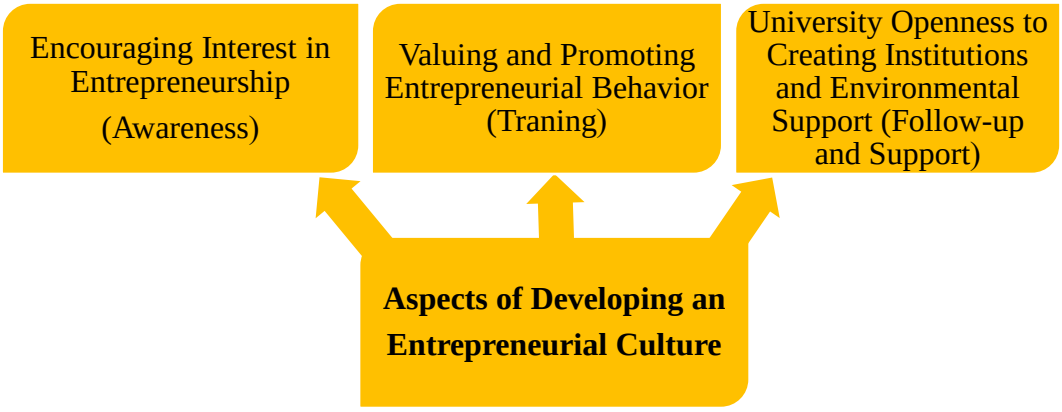
4. The Role of the University in the Context of Entrepreneurship:

Universities should focus on raising awareness and emphasizing the importance of entrepreneurship through various means such as training programs, professional and academic pathways, and workshops. This is intended to encourage interest in entrepreneurship, which is considered the core element of an entrepreneurial culture. This is followed by valuing and supporting different ideas, preparing them, and transforming them into projects. The key point in this relationship is the university's openness to creating institutions and attracting support.**(Bedraoui, 2015,p82)**

Through these aspects, we are talking about nurturing an entrepreneurial culture. From this perspective, an entrepreneur will possess social capital divided into three essential poles: the cognitive pole, the relational pole, and the financial pole, as illustrated in the following diagram:

Figure 04:

Aspects of Developing an Entrepreneurial Culture



Source:(بدراوي، 2015، ص83)

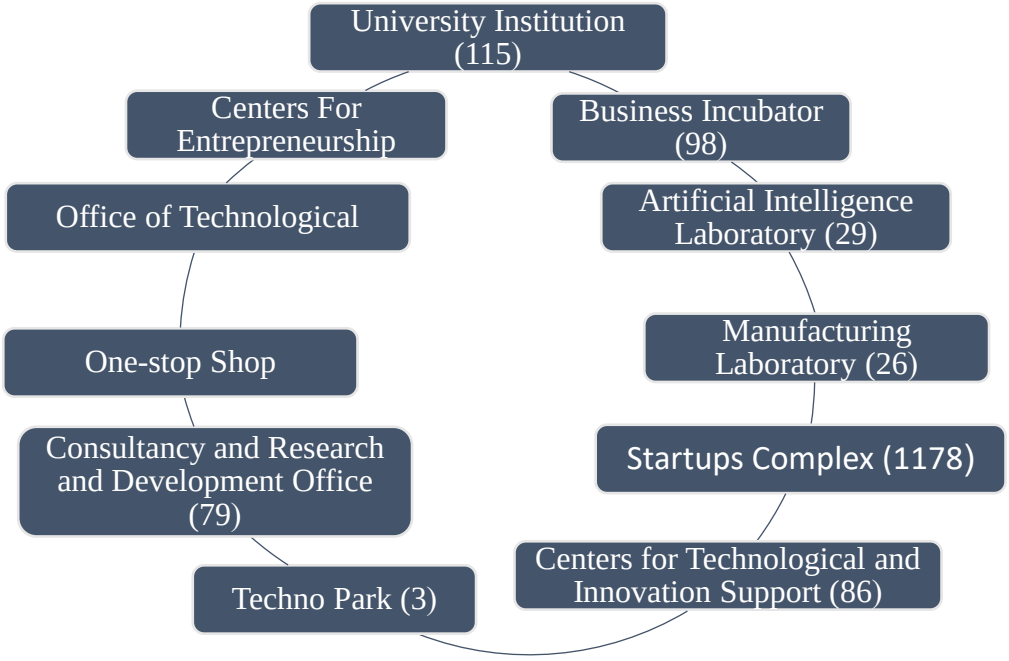
The functions of higher education were defined at the World Conference of UNESCO held in 1998 and were divided into three main functions:

- Education: This is the primary function of higher education, where universities are responsible for preparing the required personnel for high-level scientific, technical, professional, and administrative roles;
- Scientific Research: Scientific research is a fundamental pillar for the advancement of any country. Discoveries come through research, scrutiny, and the exploration of ideas, which are then developed, supported, and nurtured. Many innovations and inventions are the result of the creative ideas of university professors and outstanding students;
- Community Service: The results of scientific research are utilized to serve the community, contributing to development and progress in various aspects of life. Universities should adapt to meet the needs of society. In the Middle Ages, universities focused more on religious and philosophical sciences. After the Industrial Revolution, they began to partially adapt to societal needs, starting in the 19th century with education in new fields dictated by emerging job roles.

(حسين، ماجد، 2022، ص26)

Figure 05:

Newly Established Support Entities within the University Environment.



Source: National Coordination Committee for Innovation Follow-up and University Entrepreneurship (NCCFTUE)

From the above Figure 05, it is clear that the newly established support entities in the university environment of Algeria in the year 2023 are interconnected and intertwined, aiming to serve scientific research as a whole. Wefind:

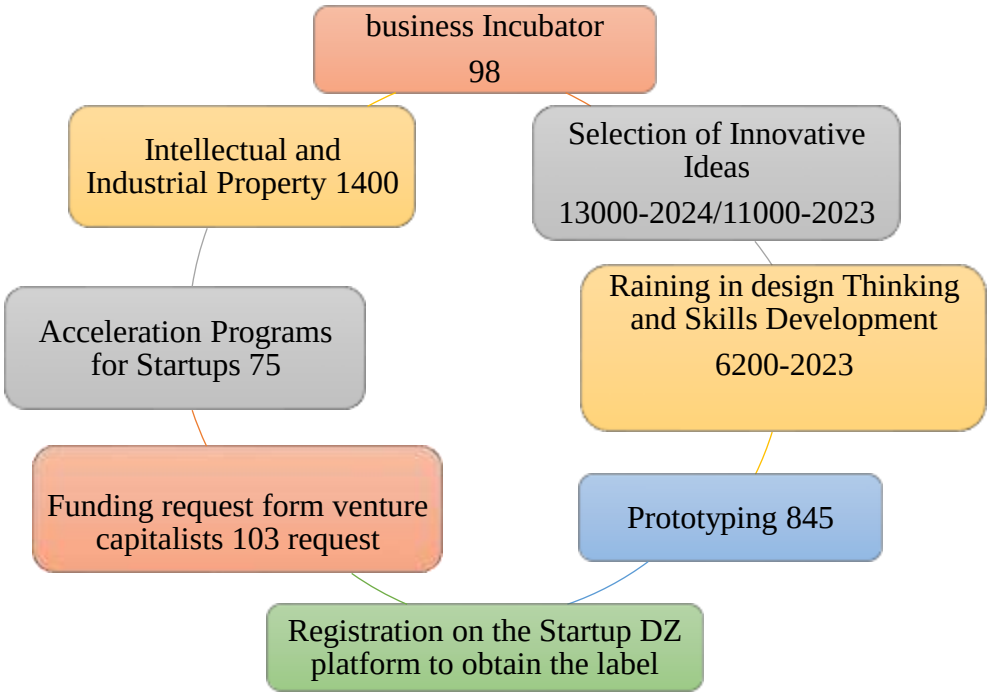
- 98 Business Incubators ;
- 29 Artificial Intelligence Laboratories ;
- 26 Manufacturing Laboratories ;
- 1178 Offices for the Startups Complex;
- 86 Centers for Technological and Innovation Support;
- 102 Centers for Entrepreneurship Development ;

- 1 Office of Technological Knowledge Transfer;
- 1 One-stop Shop ;
- 3 Consultancy and Research & Development Offices;
- 13 Techno Parks.

When explaining the roles of the newly established support entities in the university environment, we start with the Business Incubators, which have reached a number of 31, as illustrated in Figure 06 below, here

Figure 06:

The Roles of Business Incubators in the University Environment.



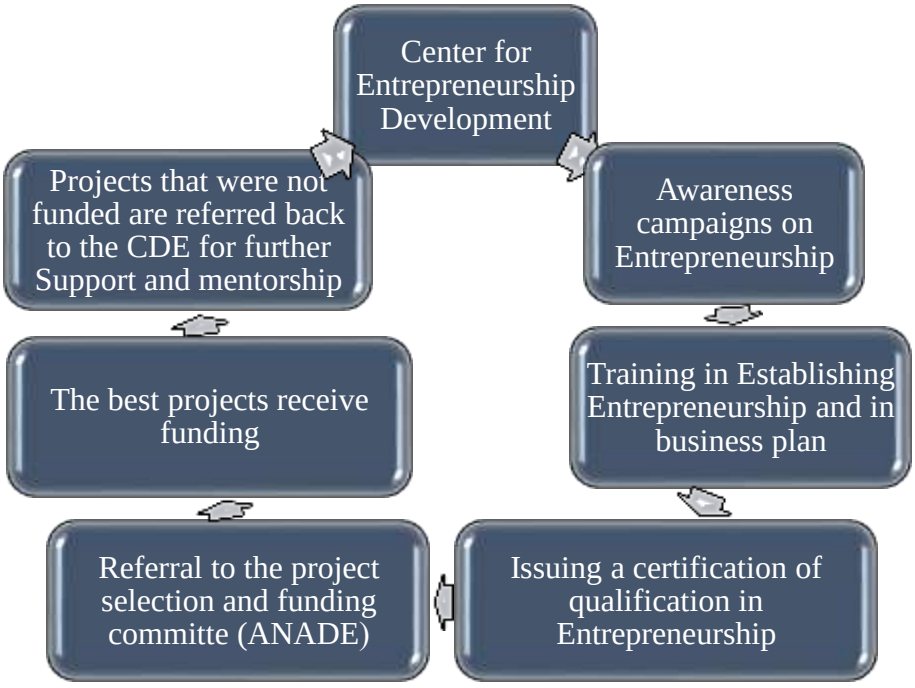
Source: National Coordination Committee for Innovation Follow-up and University Entrepreneurship (NCCFTUE)

The selection of innovative ideas reached 11000 in the year 2023 and 13000 in 2024. Training in design thinking and skills development reached 6200 in the year 2023, and prototyping included 145. In terms of intellectual and industrial property, there were 1,400cases, in addition to 5 startup companies requesting a patent, and 103 funding requests.

Then, there are the Centers for Entrepreneurship Development, which totaled 102 centers, as illustrated in Figure07 below, here:

Figure 07:

The Roles of Centers for Entrepreneurship Development in University

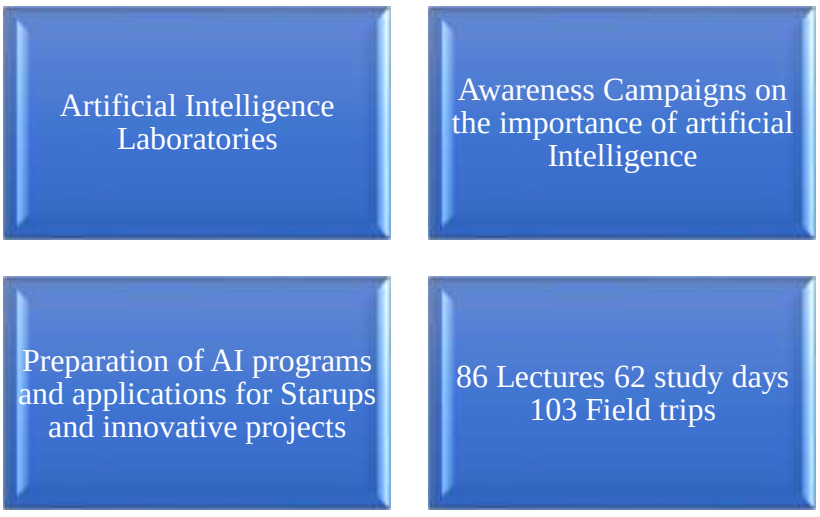


Source: Prepared by the authors.

Next, the Artificial Intelligence Laboratories, which totaled 23, as illustrated in **Figure 08** below, here

Figure 08:

The Roles of Artificial Intelligence Laboratories in University



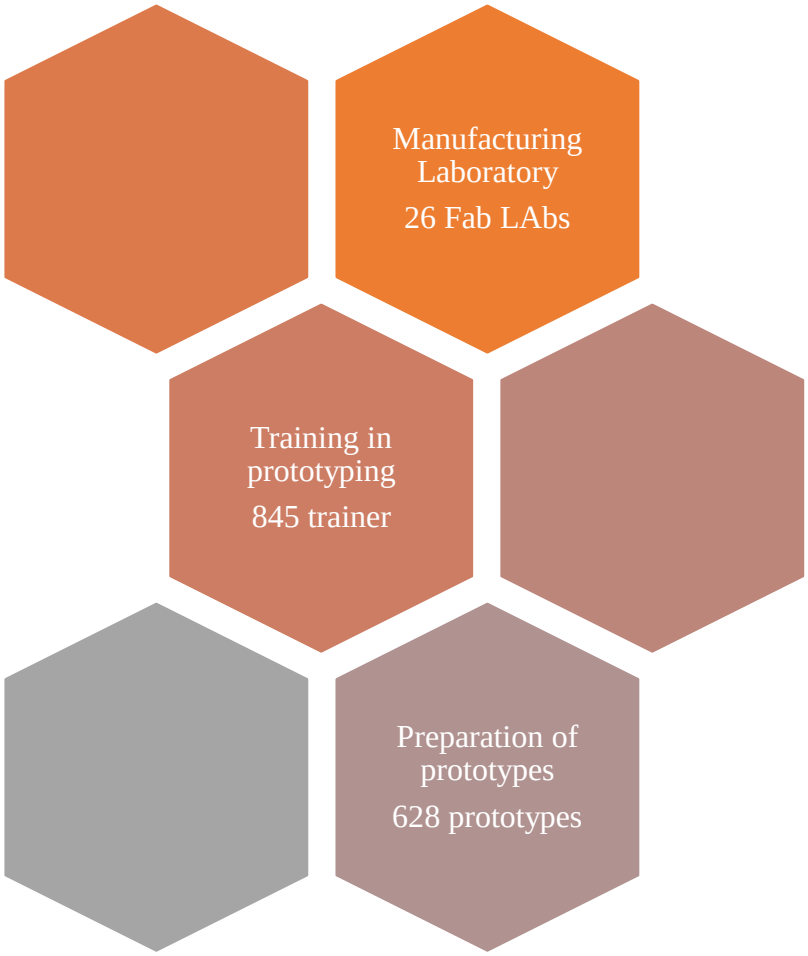
Source: National Coordination Committee for Innovation Follow-up and University Entrepreneurship (NCCFTUE)

In the year 2023, awareness of the importance of artificial intelligence reached 5000people, through 16 lectures, 62 study days, and 103 field trips.

Next, the Manufacturing Laboratories, which totaled 26, as illustrated in Figure 09 below, here:

Figure 09:

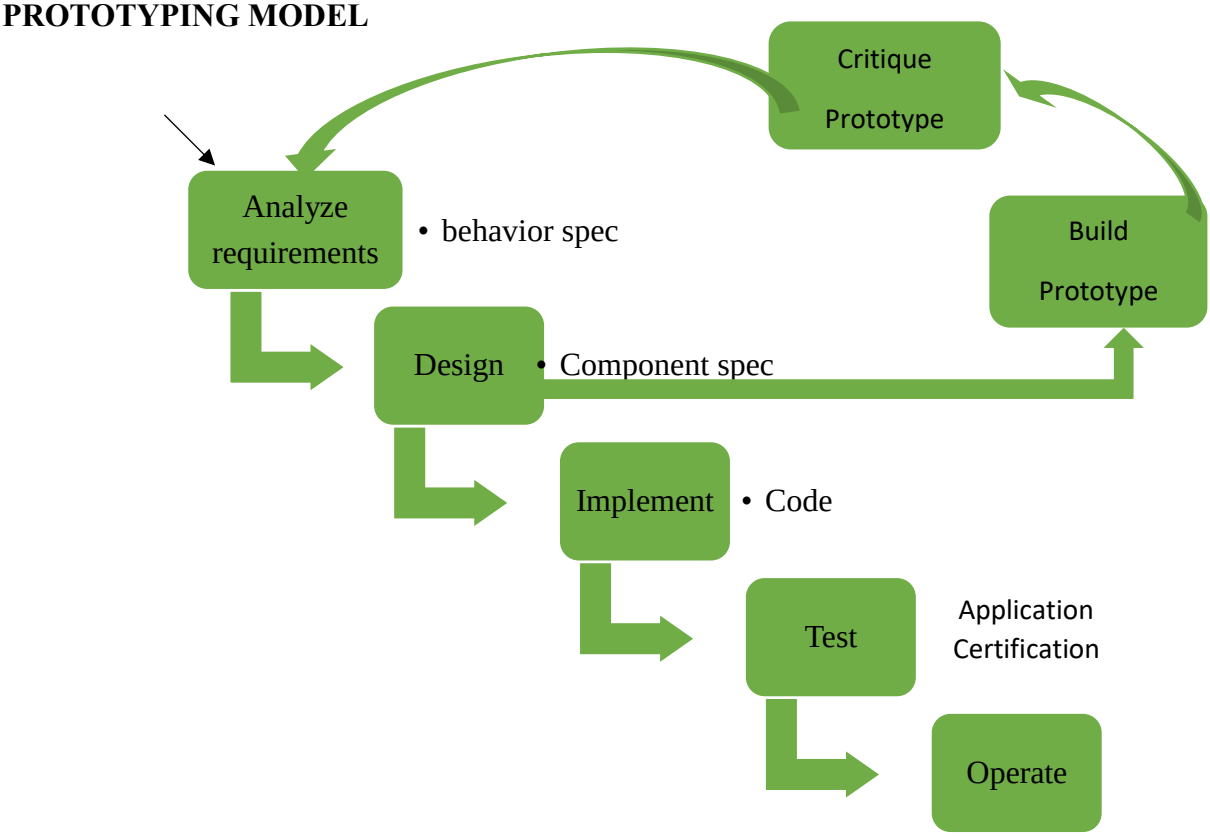
The Roles of Manufacturing Laboratories in University



Source: National Coordination Committee for Innovation Follow-up and University Entrepreneurship (NCCFTUE)

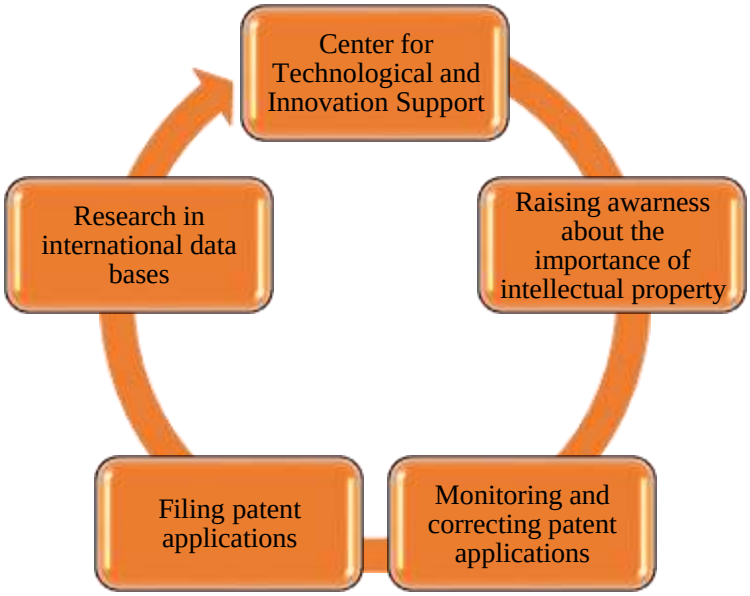
In the year 2023, the number of prototypes reached 628, through the training of 845 individuals in prototyping. The curve below represents a prototype:

Figure 10:
Prototype of a Manufacturing Laboratory



Finally, the Centers for Technological and Innovation Support, which totaled 86, as illustrated in **Figure 11** below, which highlights the role of raising awareness about the importance of intellectual property.

Figure 11:
The Roles of the Center for Technological and Innovation Support in the University Environment



Source: Prepared by the authors.

5. The University's Role in Light of Ministerial Decision No. 1275

In the context of the project launched by the Ministry of Higher Education and Scientific Research to support startups, as embodied in Ministerial Decision No. 1275, the goal of this decision is to:

- Encourage students to create their own businesses through innovative ideas, allowing graduating students to obtain both a university degree and a startup certificate;
- Most studies confirm that startups are among the best means to achieve economic revival due to their adaptability and flexibility. Integrating academic institutions with the entrepreneurial and labor market space helps drive the national economy towards sustainable development, making startups capable of combining economic growth with job creation;
- Startups are defined as new enterprises established by entrepreneurs through the combination of business ideas and financial resources. They are also described as temporary organizations designed to seek out repeatable and scalable entrepreneurial business models;

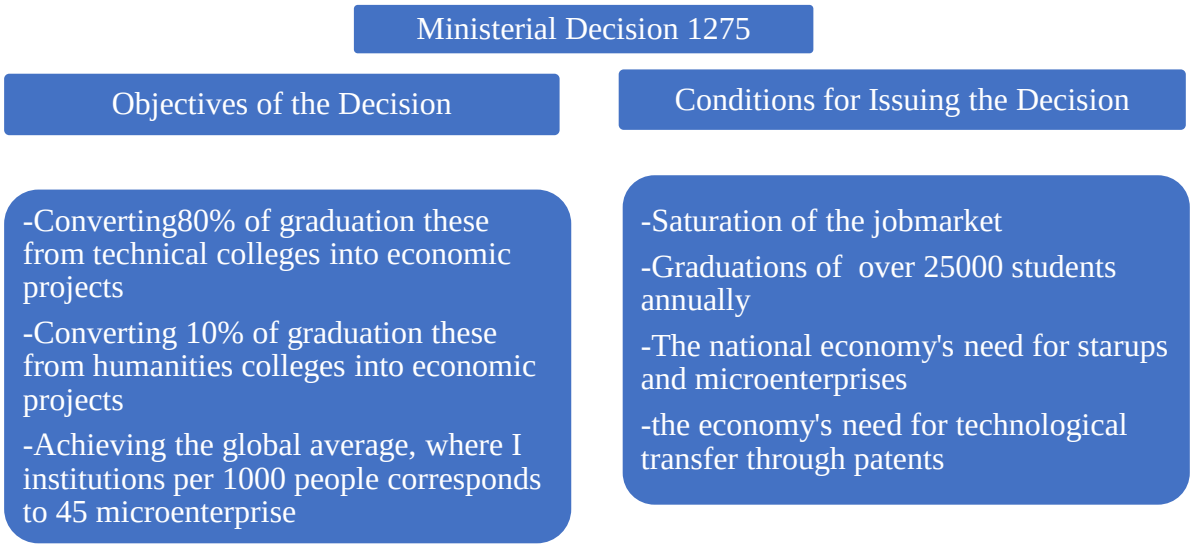
According to Article 11 of Executive Decree No. 254-21, a startup is considered any institution subject to Algerian law that meets the following criteria:**(Aicha, B, 2021, p)**

- The company's operational lifespan must not exceed eight years;
- The business model must be based on innovative products, services, business models, or ideas;
- The annual revenue must not exceed the amount specified by the National Committee;
- At least 10% of the company's capital must be owned by individuals, accredited investment funds, or other institutions recognized as startups;
- The company must have significant growth potential;
- The number of employees must not exceed 310;

Startups are characterized by their recent establishment and youthful nature, with the choice to either evolve and become successful or to close and face failure.**(Low & Macmillan,1988, p 4)**

Figure 12:

The Role of the University in Light of Ministerial Decision 1275



6. The State of Entrepreneurship Activity in Algeria:

Table 01:

Entrepreneurial Activity in Algeria According to the Global Entrepreneurship Monitor (GEM)

Year/Entrepreneurial Activity	2009	2011	2012	2013	2020	2021
Emerging Entrepreneurial Activity Rate	11.3	5.3	1.62	2.2	5.1	8.2
New Business Ownership Rate	5.6	4	7	2.6	4.8	7.7
Early-stage Entrepreneurial Activity Rate (TEA)	16.7	9.3	9	4.9	7.2	7.4
Established Business Ownership Rate	4.7	3.1	3	5.4	25.8	/
Business Exit Rate	7.9	9.5	7	3.3	3.4	/
Necessity-driven Entrepreneurship (as a % of TEA)	18	36.5	30	21.3	48.5	46.5
Entrepreneurship driven by development (as a % of tea)	51	46.4	47	62.3	51.5	53.5

Source:(Prepared by the authorsbased on the website: https://www.ons.dz/spip.php?rubrique4)

Referring to the year 2009, we observe that Algeria ranked among the lowest in the rate of emerging enterprises out of the 78 countries surveyed. The data in Table 01 shows a significant decline in the emerging entrepreneurship index, decreasing from 11.3% in 2011 to about 1.62% in 2012. This reflects the underutilized opportunities in the Algerian economy and a lack of encouragement for the establishment of such business organizations.

The same trend applies to the new business ownership rate, which is also low, with Algeria ranking among the last in comparison to the countries surveyed. This ranking reflects the preference of Algerians to be employed in other institutions, such as public sector organizations.

Regarding the early-stage entrepreneurial activity rate, it decreased from approximately 16.7% in 2009 to about 4.9% in 2013. This reflects a clear picture of the investment climate in Algeria, which is characterized by lengthy administrative procedures for establishing a private enterprise and high costs associated with starting a business.

The increase in the rate of established business ownership compared to the entrepreneurial activity rate indicates that the country is working to encourage and develop businesses by providing a conducive environment for their growth and ensuring their continuity. However, in Algeria, this rate is low, which highlights the state's shortcomings in providing sufficient support to business owners for business development, in addition to the increasing closure of enterprises established by individuals.

Nevertheless, the low business exit rate in Algeria is a positive result, with entrepreneurs having approximately 3.3% of businesses in 2013 that they then ceased operations. This low rate of business closures places Algeria among countries with a low rate of business exits. However, the low exit rate does not reflect a flourishing entrepreneurial activity, as it is due to the small number of such businesses rather than the proportion of businesses that ceased operations.

As for necessity-driven entrepreneurship as a percentage of TEA in Algeria, it increased to 36.5% in 2011 due to support provided to individuals to create entrepreneurial activities and thus generate job opportunities. This rate then decreased to about 21.3% in 2013.

Regarding opportunity-driven entrepreneurship as a percentage of TEA, it rose from about 46.4% in 2011 to 62.3% in 2013. This reflects an increased awareness among individuals of the opportunities available in the Algerian economy, along with a growing culture of entrepreneurship among Algerian youth, especially among university graduates.

In 2020, we observe a decrease in opportunity-driven entrepreneurship as a percentage of TEA, rising to about 51.5% compared to 2013, and 53.5% in 2021. This indicates a lower awareness of opportunities in the Algerian economy, while there is an increase in necessity-driven entrepreneurship (as a percentage of TEA) in 2021 at 46.5%.

Regarding the emerging entrepreneurial activity rate, there is notable progress, especially in 2021 with a rate of 8.2%. The new business ownership rate was 7.7%, and the early-stage entrepreneurial activity (TEA) rate was 0.4%, compared to previous years.

However, in 2021, there is a noticeable absence of data on established business ownership and business exit rates, unlike 2020, which recorded a business ownership rate of 25.8%.

- **New Statistics for 2024:**

In 2024, the indicators for entrepreneurial activity in Algeria are as follows:

- Early-stage Entrepreneurial Activity (TEA): Represents the percentage of individuals aged 18 to 64 who are involved in the early stages of starting or managing a new business. In Algeria, the TEA rate is 11.4%;
- Established Business Ownership: The percentage of individuals who own and manage an existing business for more than 42 months. In Algeria, this rate is 8.4%;
- Entrepreneurial Intentions: The percentage of individuals planning to start a business within the next three years is about 20.6%;
- Innovation Rate: Indicates the percentage of entrepreneurial businesses that offer new products or services. In Algeria, this rate is 18.3%;
- Employee Entrepreneurial Activity Rate: The percentage of employees engaged in entrepreneurial activities, such as developing or launching new products or creating new business units, is estimated at 3.2%.**(Prepared by the authors based on the website: https://www.ons.dz/spip.php?rubrique4)**

- **Employment Creation Expectation Rate:**

Represents the percentage of entrepreneurial businesses that expect to create six or more jobs within five years. In Algeria, this rate is 16.2%;

- In 2024, Algeria ranks 115th globally in the field of entrepreneurship. Algeria is also one of the countries showing significant growth in the sector, ranking second in Africa in terms of the number of active startups, with over 800 companies;
- Despite these successes, Algeria still faces significant challenges in this field, including limited access to capital and weak infrastructure. However, ongoing efforts are being made to improve the entrepreneurial environment and enhance innovation in the country;

Conclusion:

Our study highlighted that the entrepreneurial ecosystem in Algeria ranks low in most global entrepreneurship indicators compared to other countries. Over time, there has been a recorded increase in the rate of established business ownership relative to the entrepreneurial activity rate. This indicates that the country is working to encourage and develop businesses by providing a suitable environment for their growth and ensuring their continuity. However, the low percentage observed suggests that there is a clear shortfall in the state's support for business owners to develop their businesses, alongside an increase in the closure of enterprises established by individuals.

References

- Aicha, B. (2021). Start-up et écosystème d'accompagnement en Algérie. Annales de l'université de Bechar en science économique, (7).
- CNCSIIU. (n.d.). Retrieved from https://www.facebook.com/CNCSIIU?locale=ar_AR
- EPO website article. (2024, September 21). Retrieved from http://www.epo.org.
- Global Entrepreneurship Monitor. (2009–2021). Annual reports of the Global Entrepreneurship Monitor. Retrieved from https://www.gemconsortium.org/report/20222023-global-entrepreneurship-monitor-globalreport-adapting-to-a-new-normal-2
- Hadi, T. B., & Rastkar, A. G. (2022). Prioritizing Components of the Entrepreneurial Ecosystem in Golestan Province. Studies in Human Sciences, 23(12). Peer-reviewed online article. Retrieved from http://ir.ac.modares.aijh.
- INAPI website article. (2024, September 3). Retrieved from http://www.inapi.org.
- Low, M., & Macmillan, I. (1988). Entrepreneurship, past research and future challenges. Journal of Management, 14.
- Mason, C., & Brown, R. (2014). Entrepreneurial Ecosystems and Growth Oriented Entrepreneurship. The Hague, Netherlands: The OECD LEED Programme and the Dutch Ministry of Economic Affairs.
- Ministerial Decree No. 1275, dated September 27, 2022. Concerning the procedures for preparing a graduation project to obtain a university certificate for a startup.
- ONS Algeria. (n.d.). Retrieved from https://www.ons.dz/spip.php?rubrique4
- Schwarzkopf, C. (n.d.). Fostering Innovation and Entrepreneurship- Entrepreneurial Ecosystem and Entrepreneurial Fundamentals in the USA and Germany. Germany: Library of Congress Control
- StartupBlink. (n.d.). Startup ecosystem in Algiers. Retrieved from https://www.startupblink.com/startup-ecosystem/algiers-dz
- World Population Review. (n.d.). Entrepreneurial countries. Retrieved from https://worldpopulationreview.com/country-rankings/entrepreneurial-countries

- بدراوي سفيان. (2015/2014). ثقافة المقاولة لدى الشباب الجزائري المقاول: دراسة ميدانية بولاية تلمسان. أطروحة دكتوراه، جامعة أبي بكر بلقايد، تلمسان.
- حسين عبد اللطيف بعارة، ماجد محمد الخطايبية. (2002). الأساليب الإبداعية في التدريس الجامعي، دار الشروق للنشر والتوزيع، الأردن.
- واضح فواز. (2022). دور الجامعة في دعم مجتمع المعرفة وفق متطلبات التوجه نحو الاقتصاد المعرفي –إشارة إلى بعض التجارب، مجلة اقتصاديات الأعمال والتجارة، 7(01).

Transliteration of Arabic References

- Badrāwī Sufyān. (2014/2015). Thaqāfat al-muqāwalah ladá al-Shabāb al-Jazā'irī almqāwl: dirāsah maydānīyah bi-Wilāyat Tilimsān. uṭrūḥat duktūrāh, Jāmi'at Abī Bakr Balqāyid, Tilimsān.
- Ḥusayn 'Abd al-Laṭīf b'ārh, Mājid Muḥammad alkhṭāybyh. (2002). al-asālīb al-ibdā'īyah fī al-tadrīs al-Jāmi'ī, Dār al-Shurūq lil-Nashr wa-al-Tawzī', al-Urdun.
- Wāḍiḥ Fawwāz. (2022). Dawr al-Jāmi'ah fī Da'm mujtama' al-Ma'rifah wafqa Mutaṭallabāt al-tawajjuh Naḥwa al-iqtiṣād al-ma'rifī – ishārah ilá ba'ḍ al-tajārib, Majallat Iqtiṣādīyāt al-A'māl wa-al-tijārah, 7 (01).