

Integrated industrial development zones and industrial competitiveness. A projection for the case of Algeria.

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Received: 14/05/2024

Accepted: 27/09/2024

Published: 31/01/2025

Abstract:

This article examines the evolution of the knowledge economy in Algeria, highlighting progress made in the areas of innovation, education, and information and communication technologies (ICT) between 1995 and 2018. The data shows a significant improvement in the knowledge economy index during this period, although challenges remain regarding territorial integration and industrial development. The article underscores the importance of Integrated Industrial Development Zones (IIDZ) in enhancing territorial attractiveness and boosting industrial competitiveness, while calling for a strategic vision and effective policies to fully harness Algeria's potential in the knowledge economy. The article pinpoints several priority regions for IIDZ development, underscoring their potential to catalyze synergy among enterprises, spur innovation, and generate employment.

Keywords: Competitiveness, attractiveness, knowledge economy, Integrated Activity Zones, territory.

1. INTRODUCTION

It is evident that a country's development should not be concentrated in specific areas only; industrial development should occur across all parts of the territory. However, certain regions may specialize with great success in other sectors where they have comparative advantages over others: tourism, fishing, agriculture, etc. In our contribution, we will illustrate the importance of developing Integrated Industrial Zones as an opportunity to rationalize the state's intervention in organizing production spaces. Industrialization is a complex process that requires both a comprehensive and multifaceted approach: fiscal and monetary incentives that attract a range of high-tech

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companies, and more importantly, strengthening the link between university research, centers of excellence, and a region's performance in terms of innovation. Nonetheless, the areas where state intervention is most decisive will be infrastructure, telecommunications, transportation, education, the availability of public services, and other satisfactory social infrastructures (schools, hospitals, housing, etc.). These working and living environments constitute powerful instruments for attracting and sustaining industrial activity and, more generally, the competitiveness of the territory.

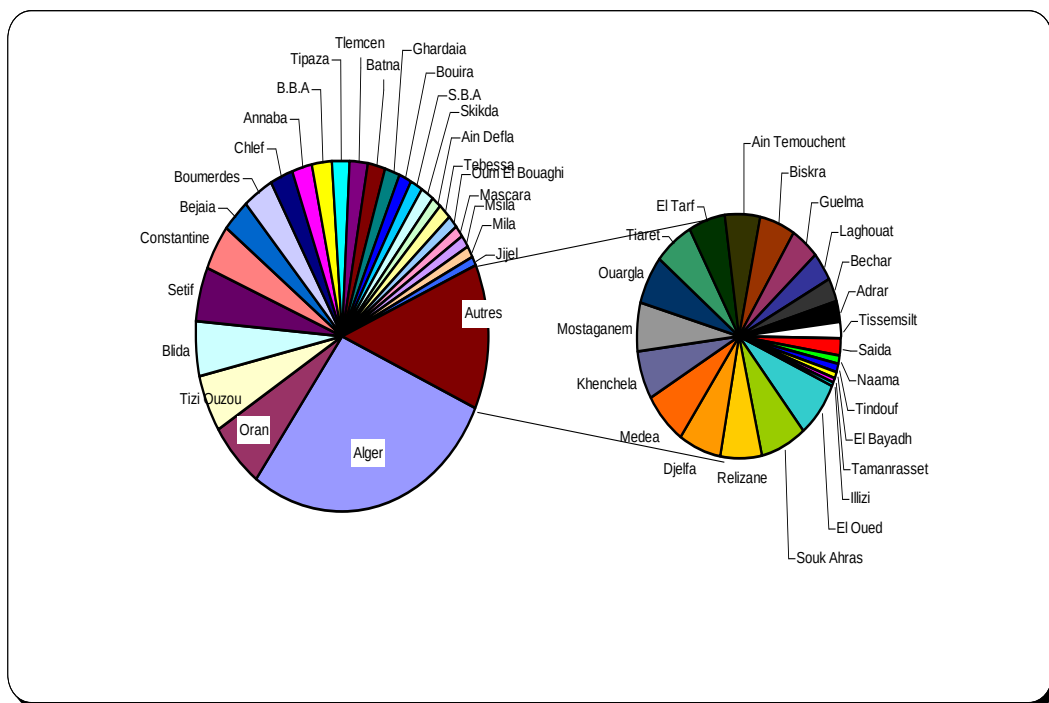
In Algeria, a process is underway involving transformation, openness, and regional integration. To better guide this process, Algeria must draw on and adopt the fruitful experiences and approaches with territorial and institutional content it contains, as confirmed by contemporary industrial history; we will outline the main concepts and discuss various theses in the body of this article. Furthermore, with the new approaches to organizing space and businesses in networks, the Integrated Industrial Zone becomes a form of spatial structuring of the productive fabric, a space that brings together a cluster of companies with different activities that maintain complementary and economic and technological cooperation with each other and with institutional actors (administrative and elected officials) and social actors in the region. In this article, we will build a solid theoretical foundation and discuss, for the case of the Algerian territory, the importance and possibilities of hosting this model (IIDZ) of industrial territorial organization. Our study aims to understand the challenges facing Algeria in terms of industrial development, focusing on creating favorable conditions for the emergence of Integrated and Organized Industrial Zones. We examine the need to modernize the country's old industrial hubs, building on the industrial achievements of the 1970s. Our analysis identifies cities as integrated industrial development zones, emphasizing the importance of improving the business environment and providing efficient support services. We propose a comprehensive strategy for territorial attractiveness and wealth creation, identifying priority areas based on criteria such as the concentration of industrial activities, the emergence of high-value-added sectors, and the ability to attract foreign investment. Finally, we discuss the importance of transport and logistics infrastructure in the competitiveness and attractiveness of the territory, emphasizing the need to modernize them and develop strategic exchange axes.

2. Sectoral changes and territorial repositioning

Algeria is undergoing profound changes in its productive apparatus, with implications for territorial distribution. The challenge of economic transition also has a territorial dimension and occurs in a context of already marked imbalances. We observe a differentiated contribution of non-hydrocarbon sectors to wealth creation. The increasing dominance of the hydrocarbon sector in the GDP is noteworthy. Two imbalances are evident: one between the North and the South, and the other between the East and the West on the territory. The majority of Algeria's economic potential is concentrated in the North, which represents 60% of employment, while the High Plateaus and the South are significantly less well-endowed. The Eastern regions represent 37% of employment, whereas the Western regions only account for 25%.

Although planned industrialization favored broad regional balances in its establishments, the East-West and North-South territorial imbalances now appear most significant for the industrial sector. The North-Central, North-East, and Northwest sub-regions occupy the top three positions in terms of industrial employment. Industries tend to locate in already industrialized regions due to their infrastructure, equipment, markets, and international openness. The overall distribution of industrial zones and activity zones by natural set and program region confirms this trend.

Fig N⁰(01): Stock of existing industrial enterprises in the various wilayas of the country



Source: Compiled based on ANDI (National Agency of Investment Development), 2022.

The distribution of establishments across the national territory reveals a significant asymmetry; five wilayas out of the forty-eight (10%) attract nearly half of the manufacturing establishments in the country. Algiers, Oran, Tizi Ouzou, Blida, Sétif, Constantine, and Bejaia are the regions that concentrate the largest number of industrial units. At the other end of the distribution, 33 wilayas (two-thirds of the wilayas) host a quarter of the total enterprises. The distribution is almost similar when considering all enterprises (industrial and others), indicating that this asymmetry has a structural character.

Drawing on its own experience of unsuccessful attempts to promote growth poles and leveraging the lessons learned, Algeria can now construct an industrial modernization approach centered on the concept of clusters, creatively mobilizing all its attributes and strengths. Clusters, spaces where a interconnected complex of local businesses and transnational firms operate and cooperate, have become a central component of development strategies for nations that, open and integrated into the global economy, aim to develop competitive capabilities in line with the requirements of the new productive paradigm. They are considered a significant factor in the qualitative leap

made by these countries economically and their transformation into industrial powers (Michael E. Porter, 1998).

Clusters have strongly emerged within the framework of a territory, often established as areas known as "business parks," "integrated activity zones," or "competitiveness hubs." The territorialization of activities, driven by globalization, has given rise to the development of cities specialized in specific industrial and related service sectors. Examples include the Silicon Valley in the United States, zones in Toulouse, Grenoble, Sophia-Antipolis in France, the Third Italy in Italy, and Euskadi in Spain. Southern countries such as China (Special Economic Zones), India (Bangalore), and Brazil quickly internalized the concept into their strategies for economic change and competitiveness enhancement. Similarly, Malaysia (Port Klang Free Zone), Indonesia, and Turkey (Aegean Free Zone in Izmir) have made the creation of business parks a major lever in their industrial growth strategies. In Africa, Morocco, South Africa, Senegal, and Tunisia were among the first to launch technology park programs. In these countries, a connection between technology, research, education, high qualification, and the industry itself became apparent (Michael E. Porter, 2006). Integrated Activity Zones have tended to develop around or in close proximity to a network of universities and engineering and management schools. The park has thus become an instrument of territorial development whose significance can range from the local and regional to the national and even international level. It serves the socio-economic and cultural space in which it is located.

Questioned in relation to the framework of this new perspective on industrial development through parks or industrial zones, Algeria finds itself clearly in a precarious position with a considerable delay that needs to be addressed through innovative and bold industrial policies. Delays in the development of a business-friendly environment and competitiveness (Table 01) and the long absence of an industrial strategy for modernization and industrial redeployment based on cluster logics partially explain the declining state of the national industry.

Table N⁰(01): qualitative assessment of the attractiveness of territories in Algeria

Criteria and Factors	Appréciation		
	Low1	Medim2	Excellent3
1. Infrastructures and quality of networks	✓		
2. Cost of energy			✓
3. Cost of land	✓		
4. Cost of water		✓	
5. Cost of labor		✓	

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6. Public incentives and facilitations		✓	
7. Geographical positioning (distance to markets)			✓
8. Accessibility and communicational proximity			✓
9. Importance of the domestic market			✓
10. Perception of international financial environments		✓	
11. Political risk for investors		✓	
12. Social climate (unions and culture of social compromise)	✓		
13. Supply and structure of qualifications	✓		
14. Dominant type of expertise distinguishing the economy	✓		
15. Competitive position of major industries	✓		
16. Quality of support services for major industries	✓		
(training, consultancy, etc.)	✓		
17. Innovation potential and technological development	✓		
(weight of intangible capital)	✓		
18. Quality and profitability of financial services	✓		
19. Presence and importance of foreign investment			✓
20. Location of financial centers (banks, insurance, consulting firms, etc.)	✓		
21. Openness and general climate for private investment	✓		
22. Quality of investment administration	✓		
23. Business ethics			✓
24. Quality of life for middle and expatriate executives		✓	
25. Role and importance of public markets		✓	
26. State intervention (regulation and decision-making process)	✓		
27. State intervention (grants and subsidies)		✓	
28. State intervention (nature and consistency of industrial policies)	✓		
29. Environmental protection		✓	
30. Democratization of public life and citizen participation in public affairs	✓		
31. Individual freedoms and human rights		✓	

Source: Compiled based on data from the Spatial Development Division, MIPI, 2022.

Algeria, committed to a process of transformation, openness, and regional integration, must draw on and assimilate the fruitful experiences and territorial and institutional approaches it holds, as confirmed by

contemporary industrial history. If we embrace the concept and introduce new approaches to organizing space and businesses in a network, in Algeria, the Integrated Industrial Activity Zone (IIAZ) becomes a form of spatial structuring of the productive fabric an area that brings together a complex or cluster of companies with different activities, maintaining complementary economic and technological cooperation among themselves and with institutional (administrative and elected) and social actors in the region. These cooperative links are voluntary and can involve one or more sectors. Companies organize their production in different locations to leverage vertical and horizontal value chains. The complex/cluster includes upstream and downstream companies involved in the manufacturing and distribution of a given family of products (vertical type), as well as companies linked to them through horizontal relationships (inputs, maintenance, services). In addition to industrial operators, it may include service and support businesses and institutions for training and research with which companies collaborate. The dynamism of local competition, including openness to foreign ownership, and the presence of informed customers in a region can enhance the nature and significance of economies of scale. In the long run, Algeria can have a varied, diversified, and coherent productive ensemble organized around IIAZ with multiple industrial and service vocations.

To ensure the successful establishment of functional IIAZ, the territory must meet at least four imperatives: be attractive to businesses and meet their needs, consider the "territorial planning" dimension, foster the emergence of "leading companies," and promote a skilled workforce. The success of an IIAZ depends on several factors, including the quality of the economic environment, existing market opportunities, possible synergies with other companies, the infrastructure network, accessibility of production sites, real or virtual proximity to information or decision-making networks, a stimulating environment (training centers, R&D, etc.), the presence of public services for both companies and employees, the availability of collective services at competitive quality costs, quality of life, support from various local authorities, involvement of local decision-makers and public authorities (a guarantee of sustainability), and integration into a competitive environment. It is likely that in the majority of cases, the adopted approach will involve actively seeking external investors and promoting SMEs. As an indication, in the United States, Massachusetts and Arizona have included the promotion of foreign investments in their organic programs. In contrast, Singapore and Ireland have attracted a sufficient mass of subsidiaries of foreign companies to use them as a development base.

3. Knowledge-based economy in Algeria

In a succinct manner, Algeria's integration into the knowledge-based economy can be assessed through the Knowledge Economy Index (KEI). The KEI is computed by averaging a country or region's performance across the four pillars of the knowledge-based economy: economic incentives, education, innovation, and information and communication technologies (This index is calculated by the World Bank Institute, WBI). In Algeria, the four pillars of the Knowledge Economy Index have demonstrated significant progress during the period 1995-2018.

Table N⁰(02): Evolution of Knowledge-Based Economy Pillar Scores

Indices	1995	2008 (Growth Rate 1995-2008)	2012 (Growth Rate 2008-2012)	2018 (Growth Rate 2012-2018)
Incentive Regime	1,00	1,18 (18%)	1,86 (57%)	2,53 (36%)
Innovation	1,18	2,55 (116%)	3,53 (38.4%)	3,48 (-1%)
Education	3,14	3,53 (12.4%)	3,58 (1.4%)	3,64 (2%)
Information (ICT)	0,59	1,57 (166%)	2,21 (40.7%)	3,15 (42%)

Source: WBI Basic Data, 2022.

Examining the published data concerning Algeria between 1995 and 2018 allows for the identification of the evolution of each parameter. Firstly, there is a significant overall evolution towards the Knowledge-Based Economy (KBE) during this period. More specifically, the obtained scores reveal three rates of evolution:

- Pillars with strong evolution: The most spectacular evolution is observed in Information and Communication Technologies (TIC), where the index has multiplied by more than 4, followed by innovation.
- Pillars with moderate rates of evolution, such as the institutional and incentive regime, which increased by 57% until 2012 and by 36% during the entire period studied.
- Pillars with a slow rate of evolution: Education, showing a modest increase of 2% over the studied period.

3.1. Challenges at the Territorial or City Level

One of the conditions for a country's integration into the knowledge economy is also the ability to disseminate knowledge at the regional, territorial, and city levels. While more attention has been focused on the issue of innovation at the territorial level (industrial districts, local public systems, innovative environments, regional systems, etc.), it must be acknowledged that the knowledge economy allows for a more systemic and integrated approach to various elements (Meyronin, 2003).

In a more concrete sense, the four pillars, according to the World Bank, should be incorporated into a coordinated approach to energize cities and territories through knowledge. The innovation process should be embedded in the promotion of a genuine "culture of innovation" and the coordination of local actors that encompasses both science and technology parks and technoparks, as well as innovation processes outside of parks involving innovative SMEs, cluster formation, etc. All of this should be integrated into a territorial-level innovation promotion strategy. The increased use of Information and Communication Technologies (ICT) at the territorial and urban levels will facilitate and strengthen this process, gradually transforming them into digital territories in terms of both usage and the emergence of a genuine ICT and services industry. Furthermore, the education and training system contributes to this territorially oriented knowledge dynamic by imparting skills and addressing local and urban development concerns.

According to this dynamic based on both creating externalities and a dynamic market, it requires public-private collaboration (Gilly JP. and Perrat J., 2002) and territorial governance that involves not only decentralized bodies but also all intermediate institutions: local authorities, chambers of commerce and industry, crafts, associations, etc. Algeria lacks a genuine local development policy and is far from fostering initiatives and strategies that contribute to the valorization of local resources. In doing so, it deprives itself of a significant source of wealth and job creation, which can be absolutely essential for some of its territories. In Algeria, numerous initiatives for local development have been initiated and implemented by the central authority, leaving no room for action by local authorities, who become mere implementers. Kheladi Mokhtar, (2008) articulates this principle: No city can take it upon itself to develop an original development strategy for 'its' region or dare to directly address foreign operators; initially because it should not, today because it does not know how. At a time when the world is moving towards the paradigm of disintermediation, in Algeria, the State continues to act as a mediator and intermediary between its constituent regions and operators from the rest of the world. The regions display an immobilism that nullifies the efforts made by the country. Cities have no strategy and take no initiative, continuing to await directives from above to try to execute them. The lack of discernment in Algerian cities disconnects them from the realities of the global market and the practices that are developing there.

3.2. Knowledge Economy and Competitiveness of Territories

Urban and metropolitan territories play a crucial role in determining the level of productivity and competitiveness of the activities within them, serving as key levers for territorial development. The drive towards openness should be anchored in the most competitive hubs, which must equip themselves with all the necessary facilities and services related to international exchange functions. Simultaneously, they should adopt a territorial strategy that combines Research and Development (R&D), innovation, and industry. In the context of an innovation-based economy, competitiveness will now be built at the regional level. Furthermore, the concentration of wealth-generating activities in major metropolises positions them at the forefront of the city's, regions, territory's, and country's overall competitiveness. Consequently, the competitiveness and attractiveness of territories become essential elements for the country's overall competitiveness. Analyses have emphasized innovation and learning as the foundations of a new innovative dynamic (innovative environments, clusters, agglomeration effects, etc.). The evolving context and analyses broaden the perspective to significantly incorporate knowledge into competitiveness.

Competitiveness poles, technopoles, and knowledge territories are the most visible manifestations of this paradigm shift. Networks of cities, territories, as well as production hubs (universities, research centers, etc.) now assert themselves as means of knowledge circulation and codification. In Algeria, regional development policy revolves around two main objectives: creating or enhancing the attractiveness of territories and promoting the emergence of a genuine local development policy. A set of legislative and regulatory measures aimed at improving attractiveness for private project proponents are considered, covering financial, legal, and technical aspects.

We can assert that the competitiveness of territories results from several factors inherently embedded in the overall model of the knowledge economy. Consequently, we can integrate the following elements: competitiveness of research and innovation systems, competitiveness of education systems, competitiveness of information systems, especially Information and Communication Technologies (ICT), and finally, competitiveness of cooperation and networking modes among actors. The goal is to establish a genuine knowledge ecosystem. As an example, we mention some weaknesses in the Algerian innovation system (extracted from the Trend Chart report, 2005):

- There are practically no links between the industry and the academic world. A considerable effort is required to develop appropriate structures.

- The higher education and research system is weak and needs to be developed in parallel with industry reforms.
- There is no technological research and development or innovation policy.
- The system of intermediate institutions remains relatively weak.

The indicators show significant progress towards the knowledge-based economy achieved by Algeria. However, there are delays compared to other countries, and its level of competitiveness is still low. Significant progress has been made, especially in the areas of institutional reforms and ICT, two major pillars of the knowledge-based economy. However, these two pillars still need to be strengthened to create a favorable investment climate. Additionally, investments in education and training do not seem to yield the expected results, especially in terms of quality. The field of R&D is also well below the requirements for competitiveness and integration into the knowledge-based economy. All these shortcomings, therefore, require a serious upgrade plan to create a better investment climate.

4. IIZ, Tools for territorial attractiveness and industrial competitiveness?

One of the key strengths of clusters lies in their role as a focal space for regional, sectoral, and horizontal articulation of a country's industrial development. They emerge as a strategic and operational tool for enhancing the attractiveness of territories and the competitiveness of businesses. Both dimensions must be addressed and constitute major objectives of the industrial strategy. Designed and implemented in the form of Integrated Industrial Activity Zones (IIAZ), industrial modernization in Algeria will thus take into account several variables:

- The state of development of the territory (promotion of major spatial and social balances) and associated public planning policies;
- The existing industrial structure and density;
- The need for institutional facilitation to promote industrial investment and public support for the competitiveness of businesses;
- The preparation of stakeholders to embrace the objectives and values of the new industrial development.

Regarding the modes and trends of ongoing industrial restructuring, the evolution of the global economy has shown: (i) the emergence of new forms of network organization for businesses and territories, (ii) the redeployment of businesses in Southern countries to benefit from external economies and comparative advantages, and (iii) the disconnection between work and the productivity of the company (Moati P., 1996). These are unavoidable trend indicators in strategic thinking; they guide towards new options and operational solutions that could ensure greater efficiency in

Algeria's industrial renewal and enable a balanced spatial reordering of investments. The state, while ensuring balance, must prepare and enhance territories to encourage national and international companies to invest.

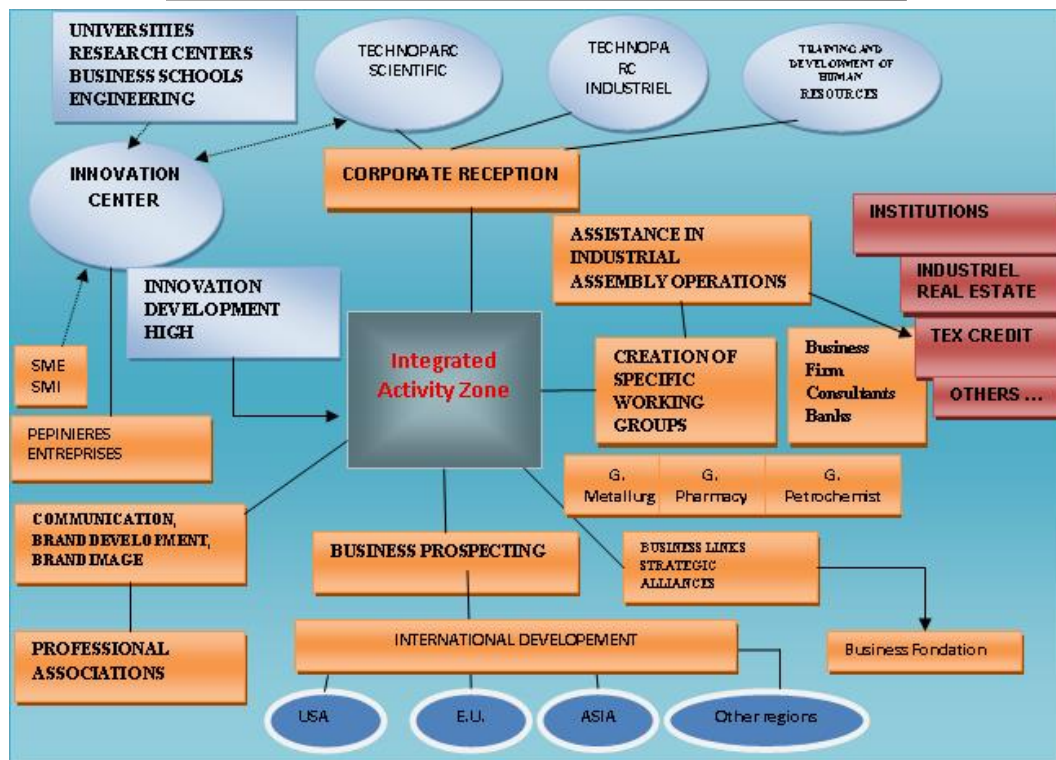
Literature indicates that infrastructure is now one of the decisive parameters for increasing the value of territories and, consequently, the establishment of businesses. The implementation of a program for the development of the High Plateaus and Southern regions will decisively contribute to overcoming this constraint. The nature and scope of the expected work already ensure the emergence of an infrastructural landscape (roads and highways, railways, dams, ports, and airports, etc.) that is among the most modern, guaranteeing optimal economies of scale and networks. As an example, in the Tell region, areas like Chlef or Sétif and Bordj Bou-Arreridj are expected to benefit from a new communicative proximity that will undoubtedly disrupt their human and economic geography, being, for instance, two- or three-hours' drive from major ports.

The primary purpose of industrial modernization through the development of Integrated Industrial Activity Zones (IIAZ) is to provide a real-time framework for structural reforms and the concrete implementation of industrial policies that ensure access to international standards in terms of economic efficiency and competition. This includes access to credit (local establishment of efficient banking agencies) and land (local database), direct upgrading of national enterprises, especially SMEs, facilitated and expedited privatization operations, and the establishment of restructured local administrations. Indeed, bringing together all these conditions quickly in a precisely targeted, delimited, and specially designed territory creates a microclimate for business and competitiveness. It is undeniable, moreover, that IIAZs are spaces to be considered in the regionalized approach to industrial development that accompanies it. Their development occurs in a dynamic of transformation, openness, and integration of the national economy. On a more operational level, a large structured space, where multinational companies (FMNs), national and foreign SME, specialized service companies, training units, research and development centers, organized administrative services, and reliable public services are located, presents a number of critical development advantages:

- Synergy: the presence of complementary industrial enterprises and activities that can interact with each other.
- Provides specialized labor with a concentrated job market, creating local fluidity beneficial to both employees and businesses.

- Offers, at a lower cost, a greater variety of specialized non-marketable inputs and promotes technological transfers and economic and social benefits through easy communication and the dissemination of best practices facilitated by geographical proximity between economic actors.
- Provides training and R&D centers, allowing for the quick acquisition of skills that are otherwise dispersed and challenging to mobilize.
- Generates agglomeration effects that quickly result in increased investment flows and the structuring of space based on an industrial and spatial organization of synergy and intersection of capital and skills.
- Induces the rapid development of a new class of university-educated entrepreneurs leveraging new technologies and R&D to enhance the competitiveness of their businesses.
- Contributes to the internationalization of activities of national businesses and the credibility of the national economy, leading to the development of strategic partnerships with major firms.
- Facilitates the emergence of leading companies (economic champions) and the development of a group of high-quality national managers and experts.

Fig N⁰(01): Typical Integrated Activity Zone (IAZ)



Source: MI, Spatial Development Division, Working document 2022.

We have already seen that high-knowledge coefficient activities can be implemented in diverse territories. The challenge for Algeria then becomes the creation of favorable conditions for the formation of ZAI in integrated and organized spaces and the modernization of old industrial poles. The Algerian strategy for industrial revival will rely on existing industrial achievements from the 1970s: the large poles and activity zones located in regions with a strong industrial presence need to be requalified or reconverted to meet the requirements of modern industrial economy. Currently, there are 72 Industrial Zones (including 2 specialized) and 400 Commercial Activity Zones. These are geographical spaces dedicated to economic activity but do not meet any of the standards of the reference framework for a functional cluster. They are more like congested territories created without consideration for regional balance and the exploitation of territorial advantages. In their current state, these zones do not meet the needs of companies and investors or their sectoral growth strategy. Their utility primarily stems from the land they offer during a limited availability of economic land. Algeria is far from the qualitative elements of complementarity and cooperation for creating external economies. Currently,

they cannot serve as a launching pad for a strategic spatial industrial redeployment.

Cities should be considered as a type of Integrated Industrial Development Zones (IIDZ) due to the concentration of good infrastructure conditions, reliable public utilities, and the presence of various industrial activities dispersed or gathered in specialized industrial zones. The IZA will require an improvement in the business activity framework and the establishment of efficient support services (information, promotion, public utilities, reliable administrative services, high-quality training, and excellent R&D centers). These will be versatile zones where synergy, interaction among companies, and external economies are factors for growth and competitiveness. Integrated Activity Zones must be part of a comprehensive strategy to contribute to the attractiveness of the territory and the creation of wealth. The business park should not be an isolated economic tool but one of the links in the implementation of a comprehensive and coherent strategy to attract investors. The identification of these priority zones in Algeria should take into account:

- The existence of areas with a concentration of industrial activities benefiting from external economies and the need to ensure a critical density of SME fabric to enable rapid and cost-effective interactions.
- The emergence of high-value-added industrial activities with export potential in areas where our country has absolute advantages and can be competitive in foreign markets.
- The emergence and rapid development of an operational capacity to appropriate new information technologies and a proximity innovation system that serves national enterprises.
- The need for the establishment of foreign direct investment brought by MNCs - as part of partnerships or *greenfield* investments and/or foreign SME serving as platforms to drive forward national SME.

A ranking of wilayas (administrative regions) based on their level of attractiveness was conducted by the Spatial Development Division (Ministry of Industry) using a synthetic index composed of weighted sub-criteria: the level of concentration of businesses with a weight of 50% (proportion of this criterion in the symmetric index), availability of infrastructure with a weight of 20%, proximity to educational institutions and research units with a weight of 20%, and the quality of collective services with a coefficient of 10%. The most competitive cities are: Algiers, Annaba, Béjaïa, Blida, Constantine, Jijel, Oran, Ouargla, Setif, Sidi Bel Abbes, Skikda, Tizi Ouzou, and Tlemcen. Taking these requirements into account leads to a more restrictive selection.

Based on the data we have collected, the following zones have been prioritized:

Versatile Activity Zones	Technopoles	Specialized Zones
Alger, Oran-Mostaganem, Setif-BBA, Ghardaia-Hassi R'mel, Annaba, Blida-Boumerdes-Tizi Ouzou	Alger (Sidi Abdellah), Béjaia, Sidi Bel Abbès	Arzew, Hassi Messaoud, Skikda, Oran

Source: Authors' synthesis

5. CONCLUSION

In the contemporary global economy, transitioning to a knowledge economy has become imperative for nations seeking sustainable growth and increased competitiveness. Algeria, aware of this reality, has made significant efforts to integrate into this new economy, as evidenced by progress observed in innovation, education, and information and communication technologies (ICT) in recent decades.

Data analysis reveals a positive evolution of key indicators of the knowledge economy in Algeria, with notable improvements in incentive mechanisms, innovation, education, and ICT utilization. These advancements are crucial for enhancing national competitiveness, but they must be complemented by effective territorial integration to maximize their impact. Promoting the knowledge economy at the regional and city levels is a major challenge. Authorities must implement a coordinated approach, fostering synergy among local stakeholders, skills development, innovation, and technological infrastructure. This also requires increased decentralization and autonomy of local authorities to stimulate local development initiatives.

Meanwhile, Integrated Industrial Development Zones represents a strategic tool for enhancing territorial attractiveness and boosting industrial competitiveness. These zones should be designed to encourage collaboration among businesses, provide modern infrastructure, and support research and development. They will thus contribute to creating an ecosystem conducive to innovation, business growth, and the emergence of national economic champions. Thus, Algeria has made significant strides towards a knowledge economy, but there is still much to be done to fully harness its potential. A strategic vision, combined with effective policies for territorial integration and industrial development, will be essential to ensure sustainable growth and enhanced competitiveness in the global economy of tomorrow.

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