

Reality of innovation in the Algerian SME's**واقع الابتكار في المؤسسات الصغيرة والمتوسطة الجزائرية****Benamraoui Fahima¹, Berrached Berbar Wafaa²**

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Received: 10/01/2022**Accepted:** 31/03/2022**Published:** 31/03/2022**Abstract:**

Innovation is the subject of interest of many researchers because it is one of the strong elements of the sustainable projects construction. It is also a field improving skills and productivity and plays a prominent role in the development of project ideas. Our article tries to examine the reality of innovation and its status in the Algerian small and medium enterprises, by diagnosing its system and highlighting the element of innovation and its contribution to its success, as well as the different mechanisms adopted by the state to encourage and support innovation for economic development and finally the obstacles on innovation in the Algerian small and medium enterprises.

Keywords: Small and Medium Enterprises, innovation, innovation system, innovative performance

JEL Classification Codes: O3, M10,

ملخص:

يحظى الابتكار باهتمام العديد من الباحثين لأنه أحد العناصر القوية لبناء المشاريع المستدامة. وهو مجال يعمل على تحسين المهارات والإنتاجية ويلعب دوراً بارزاً في تطوير أفكار المشروع. يحاول مقالنا دراسة واقع الابتكار ومكانته في المؤسسات الصغيرة والمتوسطة الجزائرية، من خلال تشخيص نظامه وإبراز عنصر الابتكار ومساهمته في نجاحه، وكذلك الآليات المختلفة التي تتبناها الدولة لتشجيع ودعم الابتكار من أجل التنمية الاقتصادية وأخيراً معوقات الابتكار في المؤسسات الجزائرية الصغيرة والمتوسطة.

كلمات مفتاحية: الابتكار المؤسسات الصغيرة والمتوسطة، نظام الابتكار، الأداء الابتكاري

تصنيفات JEL: O3، M10

INTRODUCTION:

Small and medium enterprises are considered the main base in the economic and social development process, because they achieve great economic returns on all productive sectors within the economy of any country. They contribute significantly to creating new job opportunities in addition to their effective impact on improving the level of macroeconomic indicators such as increasing investment rates, mobilizing savings and achieving high added values. One of the most important factors affecting the success of small and medium enterprises is the element of innovation, which has become one of the basic necessities in its management. With growing needs and aspiration, it is not enough or even satisfactory to perform business in institutions in traditional routines because it takes it forward or failure. Therefore, enterprises that want to build advanced strategies must be aware of the nature of the changes taking place in their environment and the characteristics of the environment in which they are active and their capabilities and then make appropriate changes. In this case, it is necessary to pay attention to innovation for its vital role in assisting performance in small and medium enterprises throughout its life cycle.

Successful small and medium enterprises, and in order to ensure their survival strong and effective, they should not stand at the level of efficiency in the sense that they are convinced to do their work properly, but their ambition must be far beyond that, and in order to be successful, they must be creative and inventive to protect its position in the market and its presence and its presence in an environment characterized by the increasing sophistication of technology.

The status of small and medium enterprises in Algeria has become important in the national economy in all field .As well as increased interest in innovative ideas so that the state adopted a number of reforms and legal legislation to create innovative institutions successful to enter the national markets and even international strongly

Through this research, we will try to present some definitions about small and medium enterprises in general and Algerian in particular, as well as the concept of innovation and its reality in Algerian small and medium enterprises and the various mechanisms adopted by the state in order to encourage and support it for comprehensive economic development.

1- The Algerian SME's:

1-1 Definition of the small and medium enterprises

Small and medium enterprises appeared in Algeria and grew in the period in which the country was characterized by economic openness. This type of institution has been seen as a means of combating poverty, absorbing unemployment in particular and contributing to economic and social development in general.

Algerian law defines small and medium enterprises as follows: (Official news paper & law number 02-17 of January,11, 2017, 2017, p. 5)

Under law number 02-17 of January,11, 2017 includes the SME's Guideline Law:

- **Article 1:** The purpose of this law is to define SMEs and identify support measures and their assigned mechanisms for creation, development and sustainability.
- **Article 2:** The law defines the following general objectives:
 - The revival of economic growth Improve the environment of small and medium enterprises;

- Encourage the establishment of small and medium enterprises, especially innovative ones, and maintain their sustainability;
 - Improving the competitiveness of SMEs and their export capacity;
 - Promote the culture of the contractor.
- **Article 5: Definition of small and medium enterprises:** The definition of a small and medium-sized enterprise, whatever its legal nature, as the institution of production of goods and / or services:
 - Used from 1 to 250 people ;
 - The annual turnover does not exceed 4 billion Algerian dinars, or does not exceed the total annual turnover of 1 billion Algerian dinars;
 - Includes the criteria for independence.

Table (1): Algeria's definition of the small and medium

Enterprise	SME
Number of Workers	$250 \geq 1 \leq$
Annual business number	$4 \geq B \text{ DZD}$
Annual Outcome	$1 \geq B \text{ DZD}$

Source: by the student

1-2 The statistical information bulletins

There are some other statistics:) SME statistical information bulletins(2019-2016 ,

Table (2): Key figures

	2016	2017	2018	1st semestre(may2019)
Total population of SME's	1 022 621	1 074 503	1 141 863	1 171 945
SMEs created	108 538	73 314	63 531	31 194
Cessations of activities (privet SMEs)	34 471	34 972	12 291	8 195
Privet PMI	89 597	94930	99938	102 055
Publique SMEs	390	267	261	244
Employer	2 540 698	2 655 470	2 724 264	2 818 736
Importations	46 727	45 957	46 197	22 146,95
Exportations	28 883	34 763	41 168	18 964,13

Source: By the researcher depending on, SME Statistical Newsletters of Ministry of Industry and Mines, 2016-2019

Table (3): Global population of SMEs

SMEs types	Number of SMEs				(%)			
	2016	2017	2018	2019	2016	2017	2018	2019
Privat SME's								
Moral people	575 906	609 344	643 493	659 573	56,32	56.71	56.35	56.28
Physical persons	446 325	464 892	498 109	512 128	43,65	43.27	20.80	43.70
Liberal professions	211 083	222 570	237 457	243759	20,64	20.71	22.83	20.80
Handicrafts	235 242	242 322	260 652	268 369	23,00	22.55	43.62	22.90
s/total 1	1 022 231	1074236	1141608	1 171 701	99,96			99,98
Public SME's								
moral people	390	267	261	244	0.04	0.02	0.02	0.02
s/total 2	390	267	261	244	0.04	0.02	0.02	0.02
Total	1022621	1 074 503	1 141 863	1171945	100	100	100	100

Source: By the researcher depending on, SME Statistical Newsletters of Ministry of Industry and Mines, 2016-2019

At the end of 2016, the overall population of SMEs stood at 1,022,621 entities of which more than 56% are made up of legal persons, among which there are 390 Public Economic Enterprises (EPE). The rest are people physical (43.65%), of which nearly 21% of the liberal professions and 23% are activities artisanal. In 2017, the overall population of the SME is composed of 97% of Very Small VSE Company (workforce of less than 10 employees) which remains strongly dominant in the economic fabric, followed by Small Business PE with 2.6% and the Average Enterprise ME with 0.4%.

but in 2018, the overall population of SMEs stood at 1,141,863 entities, more than 56% of which are made up of legal persons, among which there are 261 Public Economic Enterprises (EPE). The rest are made up of natural persons (43.62%), of which almost 21% are liberal professions and 22.83% are craft activities.

And here the year of 2019 we just have the first semester, the overall population of SMEs stands at 1,171,945 entities of which more than 56% are made up of legal persons, among which there are 244 Public Economic Enterprises (EPE). The rest is made up of natural persons (44%), including 21% of liberal professions and 23% of activities craft.

Table (4): Concentration of private SMEs by region

Region	Number of SMEs (Moral people)				Concentration rate (%)			
	2016	2017	2018	2019	2016	2017	2018	2019
North	400 615	424 659	447 817	459 146	69.56	69,69	69,59	70
Highlands	125 696	133 177	141 465	144 836	21.83	21,86	21,98	22
South	49 595	51 508	54 211	55 591	8.61	8,45	8,42	8
General total	575 906	609 344	643 493	659 573	100	100	100	100

Source: By the researcher depending on, SME Statistical Newsletters of Ministry of Industry and Mines, 2016-2019

On 2016 The Northern region groups together 400,615 SMEs, or 69.56% of the country's SMEs, followed by highlands region with 125,696 SMEs 22.83%, and the southern and southern regions Great South host 49,595 SMEs representing 8.61% of the total. and on 2017 the Northern region has 424,659 SMEs, or 69.69% of the country's SMEs, followed by highlands region with 133,177 SMEs, or 21.86%, and the Southern and Southern regions the Great South hosts 51,508 SMEs representing 8.45% of the total.

The yea of 2018 the North region has 447,817 SMEs, or nearly 70% of the country's SMEs, followed by the region with 141,465 SMEs, or nearly 22%, and the South and Great South regions host 54,211 SMEs representing 8.42% of the total. And about 2019 we have just the first semester the Northern region has 459,146 SMEs, or 70% of the country's SMEs, followed by highlands region with 144,836 SMEs (22%), and the Southern and Greater regions South host 55,591 SMEs, or 8% of the total.

Through these results from 2016 until the first semester on 2019 we see an increase in the number of small and medium enterprises across all regions.

Table (5): Evolution of SMEs (legal persons) by activity sector (2016-2017)

Activity sector		Period				
		2016	(%)	2017	(%)	Evolution
1	Agriculture	6130	1.06	6599	1.08	7,65
2	Hydrocarbons, Energy, Mines and related serv	2767	0.48	2887	0.47	4,34
3	BTPH	174848	30.36	179303	29.43	2,55
4	Industries manufacturing	89597	15.56	94930	15.85	5,95
5	Services	302564	52.54	325625	53.44	7,62
	General total	575906	100	609344	100	5,81

Source: The Department of Statistics, Ministry of Industry and Mines, SME Statistical Newsletters, 2016- 2017

The sectors where business creation was strongest between the two years 2016 and 2017, remain those of services and agriculture.

There are 94 930 industrial SMEs at the end of 2017, compared to 89 597 entities at the end of 2016, an increase of 5.95%, growth below the overall level of growth of SME legal entities (5.81%).

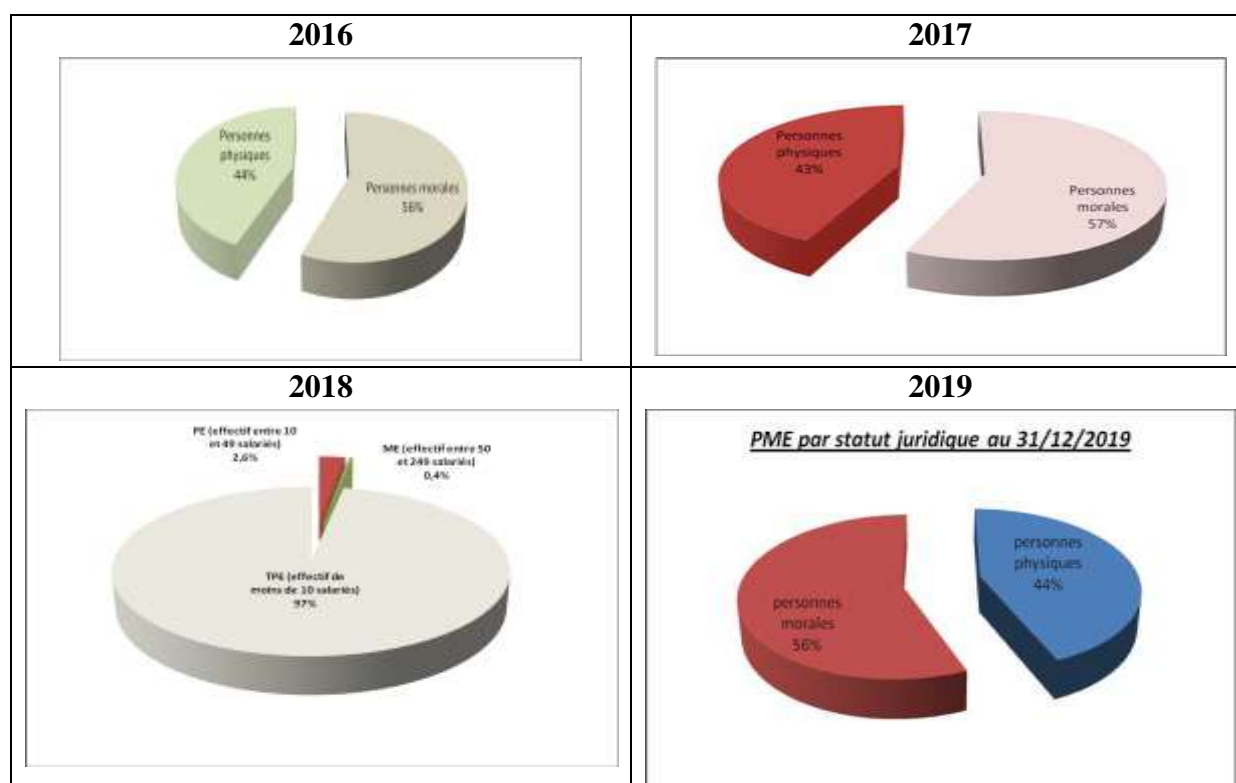
Table (6): Evolution of SMEs (legal persons) by activity sector (2018-2019)

Activity sector		Period				
		2018	(%)	2019	(%)	Evolution
	Agriculture	6973	0,64	7368	0.63	5.66
	Hydrocarbons, Energy, Mines and related service	2938	0,27	3035	0.26	3.30
	BTPH	182501	16,69	188290	16.06	3.17
	Industries manufacturing	97803	8,95	102128	8.71	40.42
	Services	561461	51,36	602755	51.43	7.35
	Arts and crafts	241494	22,09	268369	22.90	11.13
	General total	1093170	100	1171945	100	7.11

Source: The Department of Statistics, Ministry of Industry and Mines, SME Statistical Newsletters, 2018- 2019

The sectors where business creation was strongest between the first two semesters of fiscal years 2018 and 2019, remains that of services with 51.43%. There are 102 128 industrial SMEs at the end of the first half of 2019, compared to 97 803 entities at the end of the first half of 2018, an evolution of 4.42%.

Fig (1): Breakdown of SMEs by legal status (2016-2019)



Source: By the researcher depending on, SME Statistical Newsletters of Ministry of Industry and Mines, 2014- 2019

2- innovation in the Algerian SME's:

2-1 Definitions of innovation

- Innovation is a concept that can be understood in many ways, but with common sense and novelty, it must be remembered that innovation is not an end in itself but is produced with the aim of improving production, finding more practical ways of doing things, making a profit) .Berrached (2015 ‘
- Innovation Is the process of establishing, developing, acquiring and implementing new product, new service and new process aims to improve efficiency and a competitive advantage that adds value to the organization and to employers;
- innovation comes with the new idea and new product Which creates the new demand and comes with new market that drives industry and economy to a higher level of development. (Maymoun , p. 25)

2-2 Innovation Strategies in an enterprise

The different factors affecting enterprise, as well as the different opportunities and threats in the environment of its activities, In addition to its different capabilities and resources. All this led to the different strategies adopted.

The innovative organization follows one of two strategies: (Bert & Bellon , 2000, p. 48)

2-2-1 Proactive Innovation Strategy

Proactive innovation strategy is the strategy of the leading enterprise. This strategy involves influencing on markets by developing and introducing new products and create new markets through these products. Making this strategy requires a great ability to anticipate future developments in the environment and identify new and potential market opportunities. In fact, enterprises follow this strategy to benefit from two main advantages: (Manceau , 2001, p. 29)

- The strategic advantage is the technological progress and precedence of the organization, where the innovator is the first more able to control the technology developed or acquired and more able to add Improvement and development. Also, the imitation of new products by competitors in this case takes considerable time, allowing to take advantage of their advantages before they can do so.
- The second advantage is that innovative products are an important resource for distributors Those looking to maximize their profits, Therefore, they work to display their new products in the best markets and places and to attract customers. Especially if the profit margins are not restricted by the producing enterprise, Thus, the innovative enterprise brand gains more fame and free advertising compared to its competitors. (Zouiwesh, 2017, p. 53)

In addition, innovative products influence customer behavior, and changing their habits and reviving new things for them, then the innovative producer will be their favorite satisfying their needs, which imposes on the competing enterprise to imitate the innovative one in order to satisfy the needs of the new costumers. Because the leading enterprise is the one who imposes the new rules in the market and controls the needs of customers.

In addition to the above, there are many other factors that drive enterprise to adopt the

proactive innovation strategy and those factors are identified by Hauser and Urban as follow: (Marie & Dorey , 1983, p. 16)

- Searching for a high level of growth;
- The possibility of upgrading the innovation to a patent;
- Prospects for the significant development of profit margins;
- Availability of necessary resources;
- The inability of competitors to further improve and develop;
- Good control of distribution channels;
- The desire of the managers to enter emerging markets;
- Increase market share and diversify activity.

2-2-1 Reaction strategy

In this strategy, the enterprise works to reduce risks and avoid mistakes that are made by leading enterprises, and more importantly, it seeks to maintain its market position. That is by:

- transferring the innovative ideas of the leading enterprises to new sectors that these did not go to;
- Add improvements, modifications and adapting the product to new categories according to new customers and markets;
- Simulating the innovative product with more effective features and functions.

The enterprise that follows this strategy is working to benefit from the experience of the product for the first time by the customer, and try to fix the errors in it, whether in terms of design or functionality. This requires the presence of: (Najm, 2003, p. 32)

- skills, competencies and great marketing capabilities;
- effective information system;
- Great potential in technology control;
- The ability of production lines to simulate large products.

So, the organization here depends on improvement innovation, which mean makes only improvements to innovative products.

2-3 The National Innovation System Algeria

2-3-1 Definitions the national innovation system

It is a Networks of bodies in the public and private sectors. whose activities are initiating, importing, modifying and disseminating new technologies. (J. NIOSI, 1992, p. 217)

2-3-2 Governmental bodies active in the innovation system

technology policy. Which are basically determined at a higher level of guardian authority. The State often plays a key role, both in guidance (either military or civilian) and in the pace of technological innovation. Algeria, with a view to strengthening the scientific research and technological development sector, has developed a range of bodies for scientific research. We mention the most important:

- NATP(Agency): The ANPT is dedicating an entire activity with a set of actions to demonstrate how ICT evolution empowers innovation in all its forms, enabling businesses to be born, to survive and thrive in a rapidly changing environment. (National Agency for the Promotion and Development of Technological parkes, s.d.)

Under law number 18-170 of June ,26th, 2018 which Defines the functions of the SME Development Agency And the promotion, organization and operation of innovation. (law number 18-170 of june ,26th, 2018, p. 11.12)

Chapter one Article2: Definition of the agency

The Agency is a public institution of a special nature, are placed under the tutelage of the Minister in charge of small and medium-sized enterprises, and of personal autonomy and independence financial institutions.

- Business Incubators: Definition of Algerian legislator for business incubators. Under law number 03-78 of february,25th ,2003 Which includes the basic law of Institutional Incubator: it is a public institution of an industrial and commercial nature with a Moral Personality And financial independence, working within the policy of upgrading small and medium enterprises.

Example: Incubators Sidi Abdullah: Contribute to support innovation in small and medium enterprises through:

- Support and stimulate the establishment of innovative institutions in the field of information and communication technology;
- To accommodate emerging institutions wishing to expand and develop.

- Competitions and Awards

❖ Annual Competition for Young Entrepreneurs: the completion of Algeria Organized in October,1st,2018 The seventh national competition of young contractors Where more than 1500 students participated at the end three winners were crowned:)National Award for Young Entrepreneurs(2018 ‘

- Best Foundation Award: GREENMAT COMPANY: From the Polytechnic School of Architecture. They designed a brick for construction using cigarettes Less expensive and more isolated and hardened.
- Best Community Impact Award: GO GREEN of the Graduate School of Nutrition Science and food industries, they create soap from frying oil.
- Best Product of the Year Award: CANDUP from the University of Bejaia- Algeria, Design of intelligent heat diffuser It is installed on a gas stove, this diffuser is independent and it does not consume gas and electricity.

❖ National Award for Innovation: it is an annual award dedicated to innovative institutions in industry and Information and communication technology, this award aims to support innovation, research and development and increased competitiveness of enterprises. (National Innovation Award, 2017)

❖ National Fund for support small and medium enterprise and investment and Industrial competitiveness: under law 18-169 of June, 26th,2018. Article3 expenditure section: The State allocated expenditure to support innovation and the development of small and medium enterprises

❖ Seminars and forums: The first national seminar about: Open innovation in small and medium enterprises on march,2nd/ 3rd,2018 in Biskra, Algeria.

- intersectoral committees

To promote, program and evaluate scientific and technical research, its functions are: (Executive Decree No. 92-22, 1992)

- Studying and proposing research and development programs;
- Organization of consultation between the Department, research bodies and economic institutions directly ;
- Giving preference to collaborative and interdisciplinary research ;
- Study and propose procedures for investing research results
- Permanent sectoral committees for scientific research and technological development at the level of each ministerial department: It is responsible for upgrading the scientific research and technological development activities of the sector. It coordinates and evaluates intersectoral research and technological development activities within the framework of the national policy for scientific research. (Executive Decree No. 99-243, 1999)
- Directorate-General for Scientific Research and Technological Development
This Directorate cooperates with Other sectors by implementing the National Policy for Scientific Research and Technological Development , and according to article 14 of Act No. 98-11 its functions are: (Act No. 98-11 of 22, 1998)
 - Implementation of the Regulations of the Law on Programming ;
 - Evaluation and institutional organization ;
 - human resource development ;
 - university research ;
 - Technological and engineering development;
 - Scientific and technical media;
 - Scientific cooperation;
 - Evaluation of scientific research results;
 - Coordinating scientific and technological research activities collectively with other sectors.
- Algerian Academy of Sciences and Technologies
It is a national body of a scientific and technological nature. It is permanent and independent. Includes the highest-quality national and foreign figures in the field of science and technology. And this academy is placed with the President of the Republic and do: (Presidential Decree No. 15-85 , 2015)
 - Contribution to the promotion of science and technologies and their applications ;
 - Contribution to the development of science and technology education ;
 - Promoting the development of scientific and technical culture by bringing science and technology closer to society ;
 - Promoting scientific and technological life and supporting the production of knowledge.
- National Agency for Evaluation of Research and Technological Development Results
It is a public body of an industrial and commercial nature, Placed under the guardianship of the Minister responsible for research. Its mission is to implement the national strategy for technological development by converting and valuing search results. It take cares of : (Executive Decree No. 98-138, 1998)
 - Participation in the exploitation of research results ;
 - Promoting and supporting each technology development and Inclusion of innovative work ;

- Developing cooperation and exchange, especially towards small and medium-sized enterprises ;
- Assisting inventors in patent protection.

- National Institute of Industrial Property

It is a public enterprise of an industrial and commercial nature. With a Civil personality and financial independence and It is placed under the guardianship of the Ministry of Industry. It was created in 1963. The Institute implements the national policy on industrial property, in particular the protection of the moral rights of creators within the framework of existing laws and regulations. (charara , 2018, p. 195) With regard to innovation and scientific research, its tasks are: (Executive Decree 98-68, 1998)

- Protection of industrial property rights,
- Stimulating and supporting creative and innovative capacity,
- Facilitating access to technical information found in patent documents.

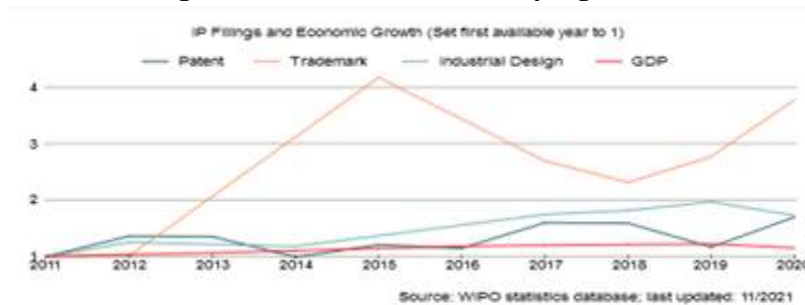
❖ Intellectual property statistics in Algeria (2011-2020) : (WIPO, 2011.2020)

Table (7): IP Filings (Resident + Abroad, Including Regional) and Economy

Year	Patent	Trademark (class count)	Industrial Design (design count)	GDP (Constant 2017 US\$)
2011	102	3,577	699	406.14
2012	139	3,634	873	419.95
2013	138			431.71
2014	101		825	448.12
2015	123	14,929		464.70
2016	117			479.57
2017	163	9,644	1,220	485.80
2018	162	8,274	1,269	491.63
2019	119	9,919	1,376	495.56
2020	173	13,513	1,207	468.40

Source : Intellectual property statistics in Algeria, <https://cutt.us/rHMk2> , consulted on January 5, 2022,

Fig (2): Breakdown of SMEs by legal status (2016-2019)



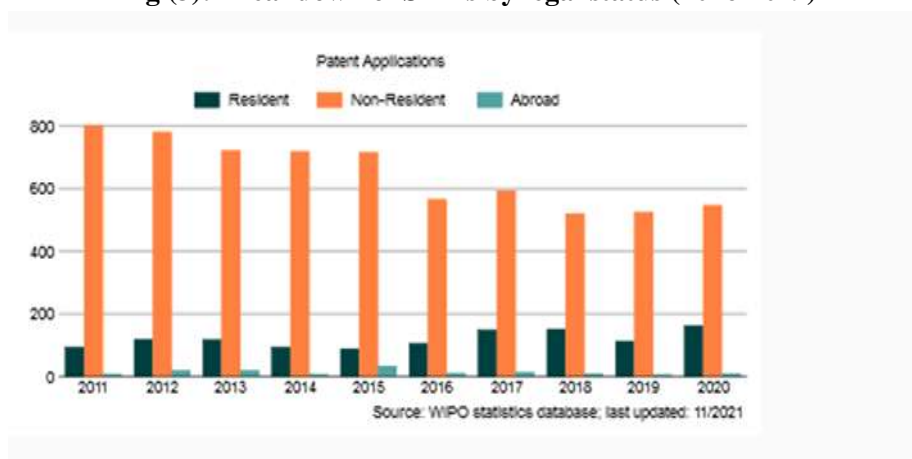
Source : Intellectual property statistics in Algeria, <https://cutt.us/rHMk2> , consulted on January 5, 2022,

Table (8): Patent Applications

Year	Resident	Non-Resident	Abroad
2011	94	803	8
2012	119	781	20
2013	118	722	20
2014	94	719	7
2015	89	716	34
2016	106	566	11
2017	149	594	14
2018	152	521	10
2019	113	525	6
2020	163	547	10

Source : Intellectual property statistics in Algeria, <https://cutt.us/rHMk2> , consulted on January 5, 2022,

Fig (3): Breakdown of SMEs by legal status (2016-2019)



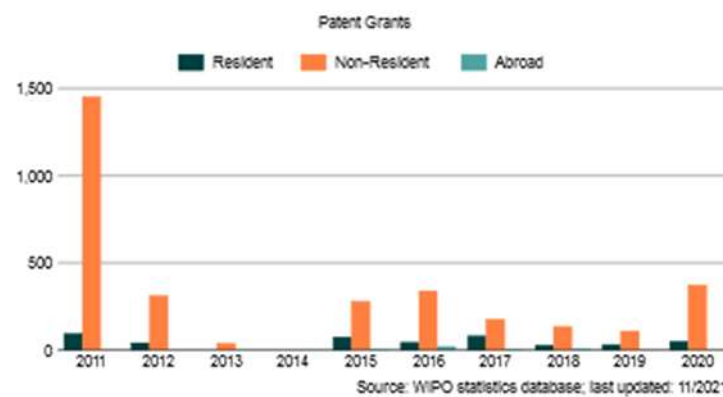
Source : Intellectual property statistics in Algeria, <https://cutt.us/rHMk2> , consulted on January 5, 2022,

Table (9): Patents granted

Year	Resident	Non-Resident	Abroad
2011	93	1,453	1
2012	41	311	
2013		37	
2014			1
2015	74	279	5
2016	44	339	20
2017	80	176	5
2018	27	135	8
2019	31	109	3
2020	49	372	

Source : Intellectual property statistics in Algeria, <https://cutt.us/rHMk2> , consulted on January 5, 2022,

Fig (4): Breakdown of SMEs by legal status (2016-2019)



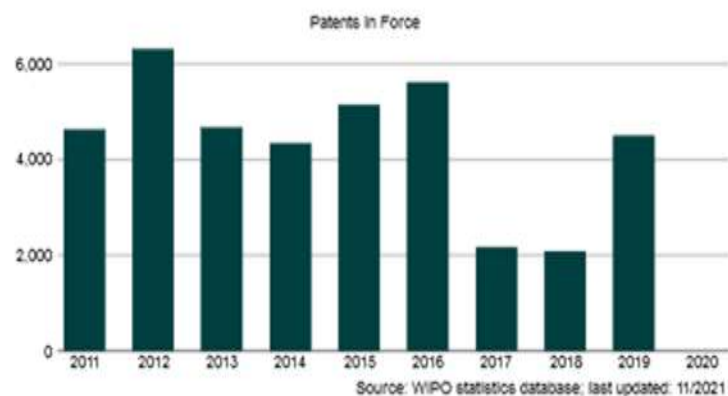
Source : Intellectual property statistics in Algeria, <https://cutt.us/rHMk2> , consulted on January 5, 2022,

Table (10): Patents granted

Year	Patents in Force
2011	4,625
2012	6,308
2013	4,666
2014	4,340
2015	5,145
2016	5,618
2017	2,171
2018	2,084
2019	4,496
2020	

Source : Intellectual property statistics in Algeria, <https://cutt.us/rHMk2> , consulted on January 5, 2022,

Fig (5): Breakdown of SMEs by legal status (2016-2019)



Source : Intellectual property statistics in Algeria, <https://cutt.us/rHMk2> , consulted on January 5, 2022,

2-4 The importance of supporting innovation in SME's

Small and medium enterprises suffer from several obstacles related to organizational aspects and performance in management. Because the management process often takes a traditional form that aims primarily to achieve profit and expansion in the market, in exchange for limited spending on ways to develop the enterprise's performance and its organization in the first place, and research and development in the second place.

Small and medium enterprises always find themselves in the shadow of many transformations, facing the risk of stopping the activity or leaving the market. They are forced, one way or another, to adopt a principle of organizational change and adapting with the developments in the field of creativity and innovation to seize available opportunities and alternatives, or use the expert from abroad for the same purpose.

The success of an enterprise in general and the continuity of their activity does not depend only on maximization Profits and investments gains. enterprises often build development strategies, so that it works to know the nature of the transformations taking place in its surroundings. And the specificity of the environment in which it is active. In this context, it becomes necessary to take care of creativity, and innovation to improve performance in the enterprise. (Abdel Qader, 2021, p. 286)

2-5 Innovative performance in Algeria

The Global Innovation Index (GII) is co-published by Cornell University, INSEAD, and the World Intellectual Property Organization (WIPO), a specialized agency of the United Nations. (THE GLOBAL INNOVATION INDEX, 2019)It allows decision makers at the level of economic institutions and innovation policy makers, implementers and others, by monitoring the effectiveness of their strategies, evaluating them and correcting deviations. (charara , 2018, p. 204)

- ❖ Some statistics on Algeria's ranking by global innovation index (2017-2021) : (THE GLOBAL INNOVATION INDEX, Algeria's ranking by global innovation index, 2017-2021)

Table (11): Algeria's Rankings (2017 – 2019)

GII	Innovation Inputs		Innovation Outputs
2019	113	100	118
2018	110	100	116
2017	108	105	117

source: The global innovation index, 2019, p :1

- Algeria performs better in Innovation Inputs than Outputs ;
- In 2019 Algeria ranks 100th in Innovation Inputs, the same as 2018 and better compared to 2017 ;
- As for Innovation Outputs, Algeria ranks 118th. This position is worse than 2018 and compared to 2017.
- In 2019 Algeria ranks 34th among the 34 upper middle-income economies,
- In 2019 Algeria ranks 18th among the 19 economies in Northern Africa and Western Asia.

Fig (6): The seven GII pillar ranks for Algeria (2019)



source: The global innovation index, 2019 , p :5

Algeria performs the best in Human capital & research and its weakest performance is in Business.

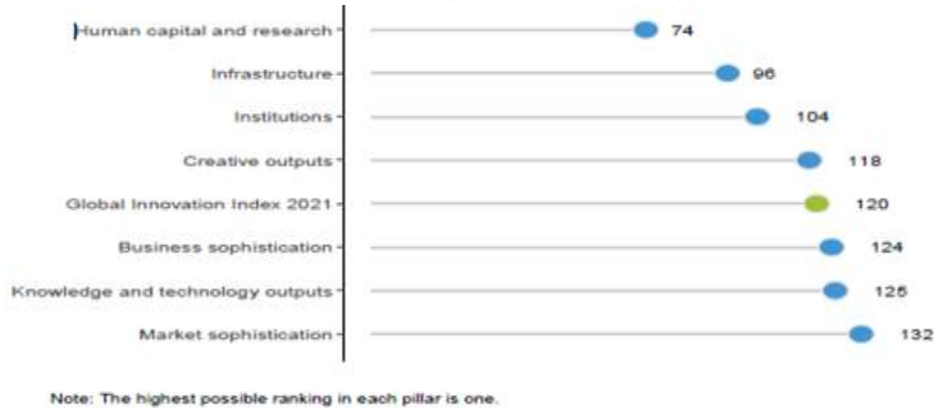
Table (12): Algeria's Rankings (2017 – 2019)

GII	Innovation Inputs		Innovation Outputs
2021	120	109	128
2020	121	111	126
2019	113	100	118

source: The global innovation index, 2021 , p :1

- Algeria performs better in innovation inputs than innovation outputs in 2021 ;
- In 2021 Algeria ranks 109th in innovation inputs, higher than 2020 but lower than 2019 ;
- As for innovation outputs, Algeria ranks 128th. This position is lower than both 2020 and 2019.
- In 2021 Algeria ranks 29th among the 34 lower middle-income groupn economies ;
- In 2021 Algeria ranks 18th among the 19 economies in Northern Africa and Western Asia.

Fig (7): The seven GII pillar ranks for Algeria (2021)



source: The global innovation index, 2021 , p :5

Algeria performs best in Human capital and research and its weakest performance is in market sophistication.

Table (13): Innovation strengths and weaknesses in Algeria (2021)

Strengths			Weaknesses		
Code	Indicator name	Rank	Code	Indicator name	Rank
2.2	Tertiary education	31	2.3.3	Global corporate R&D investors, top 3, mn US\$	41
2.2.1	Tertiary enrolment, % gross	59	2.3.4	QS university ranking, top 3	74
2.2.2	Graduates in science and engineering, %	8	3.1.4	E-participation	131
2.3.1	Researchers, FTE/mn pop.	54	4.1.1	Ease of getting credit	129
2.3.2	Gross expenditure on R&D, % GDP	62	4.2.1	Ease of protecting minority investors	130
3.2	General infrastructure	50	4.2.2	Market capitalization, % GDP	75
3.2.3	Gross capital formation, % GDP	10	5.2.3	GERD financed by abroad, % GDP	101
3.3.1	GDP/unit of energy use	64	5.2.5	Patent families/bn PPP\$ GDP	100
4.3.3	Domestic market scale, bn PPP\$	42	6.3.3	High-tech exports, % total trade	129
5.2.2	State of cluster development and depth	57	7.1.2	Global brand value, top 5,000, % GDP	80
5.3.2	High-tech imports, % total trade	49			
7.1.3	Industrial designs by origin/bn PPP\$ GDP	40			

source: The global innovation index, 2021, p :6

2-6 The Obstacles on innovation in Algerian SMEs

There are a number of elements that can be considered as obstacles on innovation, including: (Medles , 2018, p. 289.291)

- **External obstacles**
 - ✓ Obstacles to the economic environment;
 - ✓ Obstacles to the legal environment ;
 - ✓ Obstacles Environment Policy ;
 - ✓ Obstacles to the social and cultural environment.
- **Internal obstacles** : The most important obstacles are :
 - ✓ Absence of competent structures in the transmission and distribution of innovation:
 - ✓ Most of the small and medium enterprises in Algeria lack R & D units.
- **Obstacles related to innovation requirements in Algerian SMEs efficiency of R & D personnel:**
 - ✓ Weak research and development activities ;
 - ✓ miss of scientific and technological competencies;
 - ✓ miss of training opportunities..
- **Obstacles related to financial allocations for research and development:**
 - ✓ Limited financial resources for research and development.

- **Obstacles related to the use of modern technology**
 - ✓ Lack of specialized manpower and trained to operate and use modern technologies.
- **Obstacles related to the abundance of information and data bases**
 - ✓ The difficulty of some managers getting accurate information because of lack of experience.

Conclusion:

Algeria's small and medium enterprises suffer from many problems related to the organizational aspects and management. Mainly because of the specificity of the process, which is often the owner of this enterprise. Therefore, the process of management takes a traditional form, primarily aimed at achieving profit. In return for limited spending on the development of the institution. There are several financial, operational and regulatory risks that may limit the effectiveness of perform in small and medium enterprises Especially those that do not have human capabilities, rehabilitation and Material possibilities for dealing with risks and managing them so small and medium enterprises are always in the midst of continuous shifts in the face of the risk of downtime.

Therefore, despite the many programs adopted by the state with a view to facilitating the establishment of economic institutions especially small and medium and help them to continue However, the current situation in support of innovation in Algeria is flawed as a result of harnessing support and financial and human resources to serve the process of innovation in economic institutions to increase their competitiveness and rehabilitation.

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