Why is it so difficult to innovate in Algeria?

لماذا يصعب الابتكارفي الجزائر؟

Djeddai Youcef 1*
(the renewable energies and sustainable development laboratory)
university of Algiers 3**,** Algeria.
djeddai.youcef@univ-alger3.dz

Soukeur fatima zahra 2
university of Algiers 3**,** Algeria.
Soukeur.FatimaZohra@gmail.com

Received: 03rd/07/2022; Accepted: 19th/10/2022

Abstract:

Since the promulgation of Law No. 98-11 of August 22, 1998, Algeria has invested more than ever in political resources such as the prioritization of scientific research and innovation in State planning, legal such as tax reductions and more freedom to act, financial which concerns subsidies and easier access to risk capital, and human through the creation of agencies and technical centers specializing in support and expertise, to promote scientific research and technological development, and its corollary innovation, but more than two decades have passed without concrete results or changes, not even on the horizon, is it a problem of inputs? or is it a malfunction of the black box program (innovation system)? and this present work tries to explain that in the absence of institutions, even with the presence of good ingredients, there will be no results, and that the solutions of patching make derisory financial and cognitive efforts. This study mainly concerns companies which want to innovate but have not been able, or which have innovated sporadically and want to have a certain consistency in this function, based essentially on surveys, interviews and some ministerial reports. And the results show us that there are more than problems, but latent structural crises in the Algerian socio-economic environment (which are revealed at times of falls in oil prices, for example), and for it to be beneficial, this environment requires radical changes upstream. like promoting higher education, downstream like giving a finished product or a service that meets social needs, in other words, companies in the first place, must change their habits and review their culture.

Keywords: Innovation; Institutions; National System of Innovation.

Jel Classification Codes : O30 ; O43.

* Correspondent author: Djeddai Youcef

Abstract in Arabic:

منذ إصدار القانون رقم 98-11 المؤرخ في 22 أغسطس 1998، استثمرت الجزائر أكثر من أي وقت مضى في الموارد السياسية مثل إعطاء الأولوية للبحث العلمي والابتكار في تخطيط الدولة، والقانونية مثل التخفيضات الضريبية والمزيد من حرية التصرف، والمالية. التي تتعلق بالإعانات وسهولة الوصول إلى رأس المال المخاطر، والبشرية من خلال إنشاء وكالات ومراكز فنية متخصصة في الدعم والخبرة، لتعزيز البحث العلمي والتطوير التكنولوجي، والابتكار الناجم عن ذلك، ولكن أكثر من عقدين مرت دون نتائج أو تغيير ملموس، ولا حتى في الأفق، هل هي مشكلة المدخلات؟ أم أنه خلل في برنامج الصندوق الأسود (نظام الابتكار)؟ ويحاول هذا العمل الحالي أن يوضح أنه في غياب المؤسسات، حتى مع وجود مكونات جيدة، لن تكون هناك نتائج، وأن حلول الترقيع هي جهود مالية ومعرفية مهدورة. تتعلق هذه الدراسة بشكل أساسي بالشركات التي ترغب في الابتكار ولكنها لم تكن قادرة، أو التي ابتكرت بشكل متقطع وترغب في الحصول على استمرارية معينة في هذه الوظيفة، استنادًا بشكل أساسي إلى الاستطلاعات والمقابلات وبعض التقارير الوزارية. وتبين لنا النتائج أن هناك أكثر من مشاكل، ولكن الأزمات الهيكلية الكامنة في البيئة الاجتماعية والاقتصادية الجزائرية (التي تتكشف في أوقات انخفاض أسعار النفط على سبيل المثال)، ولكي تكون هذه الجهود مفيدة، تتطلب هذه البيئة تغييراً جذريًا. التغييرات من المنبع. مثل تعزيز التعليم العالي، مثل تقديم منتج نهائي أو خدمة تلبي الاحتياجات الاجتماعية، بمعنى آخر، يجب على الشركات في المقام الأول تغيير عاداتهم ومراجعة ثقافتهم.

Keywords : النظام الوطني للابتكار؛ المؤسسات؛ الابتكار.

Jel Classification Codes : O30 ; O43.

Introduction :

Now, in the context of globalization and the fabulous breakthrough of science and technology which induces the life cycle of a product to shrink, geopolitics, prices of products and raw materials, variations in exchange rates ... and moreover, with an increasingly demanding and often militant and engaged consumer, even in the presence of a certain protectionism causes uncertainty, and consequently a strong pressure and especially a presentiment that everything will collapse at any moment. Thus, all companies, see that the ideas, the means and the solutions of yesterday will be obsolete tomorrow, and how many big companies have ceased to exist even if their stories were almost those of a thousand and one nights (Kodak, Nokia, Moulinex…) but the role of the main actor (innovation) was very brief. So perpetually innovating is synonymous with "existing" if it is not "surviving."

But the landscape in Algeria indicates the opposite, and Algerian companies show a certain inertia and indifference towards innovation, very probably being aware of the gravity of the situation, especially preparing to join the

WTO. and seeing protectionist barriers fall one after the other. What is the problem? and how to act?

1 .Research Methodology:

The previous studies concerning the theme of innovation are very rare and confidential in Algeria, and do not satisfy the practical side, figures and the real problems in the field, and only give preliminary and hypothetical analyses on the question based on global data (the number of patents, absence of research center ...) because, of course, of the isolation of the Algerian company in the first place, and the hostility which reigns on the environment against the transparency and the circulation of the information, therefore, where the exploratory character of this present study comes from .

And this study is based primarily on companies that want to innovate but have not been able, or which have innovated sporadically and want to have a certain consistency in this function.

Thus, we were able to draw from the situation two important hypotheses:

- Almost total lack of innovation (especially concerning the product) at the level of Algerian companies (much more private) is mainly due to the impertinence of inventions.

- The will to innovate is omnipresent, but the internal and external environment of the Algerian company is not conducive to the development of an innovation-oriented routine.

And this study is based on surveys, interviews with executives and officials from public administration and companies, and mainly some reports from the Ministry of Industry on the theme of innovation and related subjects.
Initially, we targeted companies that have patents on their own and/or that have research and development centres, and the rest just to make the comparison.

And this Population is distributed as follows:

Table n°1: types of companies of the studied population

Innovative companies	01
Companies in search of innovation	05
Companies that have innovated once, sporadically before ten years and more, and abandoned innovation	02

Companies that have abandoned innovation, for 12 years and more without seeing results	59
Companies indifferent to innovation since its creation	27

Source : own

2 .Innovation in Algeria:

We must first distinguish innovation which is the industrial application of a discovery or invention, and;

- Discovery is the highlighting of something that exists in a material state but was unknown, such as electromagnetism.

- Invention is the intellectual and material creation of something that did not exist in the material state like television .

However, the research is only about the discovery or invention. Thus, a synergy must be created between research policy and that of innovation, because the money invested in the first must be made profitable in the second.

" Technological" innovation can relate to the finished product (physical or service) manufactured by the company and / or its manufacturing process, and can take two forms;

- An entirely new product or process that did not exist before, generally driven by research called radical innovation or push innovation, using new technologies or new combinations of technologies that already existed.

- Product or process that already existed but significantly improved, generally driven by the market called incremental innovation or pull innovation, changing components or materials for better performance.

And a so-called "innovative" company is a company that has accomplished these types of innovation, although it should be noted that technological innovation goes hand in hand with organizational innovation otherwise it will have a lot of difficulties to achieve success (Coudel et al., 2012).

the vocation of all innovation is to gain competitive advantage, by creating a new trend, by adding value to the product or service or simply reducing costs. And to do this, it must have a very efficient information system (especially external), have financial and human resources and in particular forge a true culture of innovation. But in practice it is a tough task and sometimes projects never succeed, for these reasons States, whether advanced or underdeveloped, intervene to fill in the gaps and boost the laggards.

However, there are innovations that are less risky than others; Product innovation involves technical and commercial uncertainties, on the other hand, process innovation only generates technical uncertainties, which is why a good number of companies choose process innovation.

Innovating is a business job (commercialize an invention). Furthermore, we will see later that this concern was felt only by the State, therefore, the will to innovate is delegated to the outside; the inclinations remain inside (Willemarck & De Brabandere, 2006).

Since the promulgation of Law 98 on scientific and technological research, the (Algerian) Ministry of Industry and Mines has signed several agreements, externally such as those signed with the Euro-Mediterranean area to promote scientific research and technology, valorise them and benefit from the experiences of member countries, as well as internally, those made with support structures (e.g.: National Agency for the Valorisation of Research and Technological Development) and with ministries, such as scientific research, finances and others, and these actions continue (with other actions which are no less important such as establishing a just and lasting democracy, and promoting higher education) to this day (Devalan & Graba, 2008), which proves the existence of a good intention for building a strong knowledge-based economy.

However, during our surveys of central government services and businesses, the first expression was always "but there are no innovations here in Algeria", imagine! with a unanimity rate of 100%. It seems contradictory, all the ingredients are there, and with the right measures like decision support and financial and cognitive resources. In any case, the best way to get an overview of the situation, especially in terms of results, is to know the movement of patents.

3 .Patents in Algeria:

Patents grant the holder a monopoly on the exploitation of his invention for about twenty years and in defined countries. It constitutes both a deterrent against competition and a potential source of income, on the other hand the cost of its deposit is quite high (from € 5,000 to € 50,000 in Europe, depending on the duration, the complexity of the invention, and the place where the invention will be protected. In Algeria it is between 40,000 and 50,000 DA ~ 250 and 350 €). The brand serves to individualize a product, and this distinctive sign constitutes the essential support for any advertising and plays an important role in the development of the market; there is an international classification of goods and services for the purposes of trademark

registrations, and protection is renewable every ten years. And finally, the model concerns the new form given to a product; a successful aesthetic promotes the sale of a product; the laws protect models whose photographic reproduction is the subject of an official deposit with the institute responsible for industrial property .

In Algeria, it should be noted that 85% of patents concern inventions from individuals, but the degree of relevance of these inventions to the needs of companies in terms of innovation remains to be seen. And speaking of actual inventions these statistics are not very significant, because the patent application is expensive (universally) and its registration procedures are very long, up to two years, which dissuades any pretender to come close, and as a result, many inventors go and promote their inventions abroad. In addition to these downstream obstacles (manageable), there are more substantial upstream obstacles (structural and non-controllable) that affect serious valuation and consistent development of innovation (INPED, 2005):

- The organization of the company and the associated value system do not encourage innovation; technicians and salespeople have little to gain from success, and have much to lose from failure.

- Few companies are created to develop technological innovations; the elite selection system does not favour the training of individuals who have a profile of discoverer.

- Many programs are doomed to failure because the marketing function is performed in an incomplete or imprecise manner through lack of rigor and this leads to unreliable results.

- The information is too closed unnecessarily (technological or economic) which is the raw material of technological watch which is a priori an important step for an innovation program, and also the absence of reliable statistics, even the supervisory ministry ignores the exact number of companies (almost twenty that arise and twenty that shut down each week), and even more those who innovate.

- Small and medium-sized companies only used their internal capacities which were limited and were unaware of the existence of means and technical support structures specially designed for them (communication problems, closed information). However, there were successes at company level (especially big ones) even with meager results, but they had a good start like SONELGAZ, SIDER and especially SNVI with a few patents on their account.

Table n°2: comparison of the production of patents between Algeria and other countries

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Algeria	5	4	6	6	10	8	27	28	50	34	42	36
Tunisia	20	26	27	26	22	42	39	31	45	41	38	67
Morocco	83	60	61	55	..	42	107	89	90	..	97	..
Brazil	2,338	2,323	2,389	2,319	2,100	2,429	2,269	2,707	2,611	2,756	2,491	2,816
United States	75,192	82,370	90,643	87,955	92,425	99,955	107,233	123,962	106,892	119,214	134,733	149,251

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Algeria	32	51	43	30	58	59	58	84	..	..	76	94
Tunisia	47	22	45	35	46	56	77	76	76	105	113	137
Morocco	104	..	..	..	104	140	178	150	177	135	152	169
Brazil	3,179	3,439	3,481	3,866	4,044	4,054	3,956	4,194	4,280	4,271	4,228	4,695
United States	164,795	177,513	184,245	188,941	189,536	207,867	221,784	231,588	231,588	224,912	241,977	247,750

	2012	2013	2014	2015	2016	2017	2018	2019	2020
Algeria	119	118	94	89	106	149	152	113	163
Tunisia	150	112	142	180	235	172	180	..	..
Morocco	197	316	355	224	237	198	187	199	250
Brazil	4,798	4,959	4,659	4,641	5,200	5,480	4,980	5464	5280
United States	268,782	287,831	285,096	288,335	295,327	293,904	285,095	285113	269586

Source: The World Bank.

The table above shows the gap between different economies (underdeveloped, emerging and advanced) in terms of patents. We can also see that even by comparing Algeria, a country so rich in natural resources (oil and gas especially), with other countries of the same level (technological, political life, security ...) such as Tunisia and the Morocco, the country is slightly behind, and stands out by a very weak evolution of the number throughout the period mentioned. the following table shows the number of patents on behalf of companies.

Table n°3: patent filing for Algerian companies.

Years	1988	1989	1990	1991	1992	1993	1994	1995
Patents	**0**	**0**	**0**	**0**	**1**	**1**	**3**	**3**

1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
5	**4**	**4**	**4**	**3**	**5**	**4**	**3**	**6**	**6**

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
5	**8**	**0**	**0**	**7**	**6**	**3**	**5**	**5**	**4**

2016	2017	2018	2019	2020
1	**2**	**4**	**1**	**0**

Source: INAPI

Thus, the figures show the weakness of Algerian companies in terms of innovation, and it is also the case of research centers and universities which suffer from the same problem. And the following table (Table n°4) shows us the distribution of patents between the different state entities, and the figure mentioned is an accumulation of patents from 1988 until December 31, 2019.

Table n°4: number of patent applications filed by Algerian national researchers

Higher Education Institutions and Research Centers	Number of patent applications
Higher education institutions	139
Research centers of higher education	117
Research centers outside higher education	29
Research agencies of higher education	07
TOTAL	**292**

Source: DGRSDT (2019)

Now, through Table n°5, let's see what hides the section "Research centers outside higher education" from tablen°4, and which includes two large public companies, SONATRACH and SAIDAL.

Table n°5: number of patent applications filed by Algerian national researchers concerning research centers outside higher education

Research centers outside higher education	Number of patent applications
Centre R&D SAIDAL	17
Algiers nuclear energy research center	03
Birine nuclear energy research center	03
Research Center in Maritime Fishing and Aquaculture	02
Center for Research and Integrated Studies in Building	02
SONATRACH R&D center	01
Pasteur institute	01
TOTAL	**29**

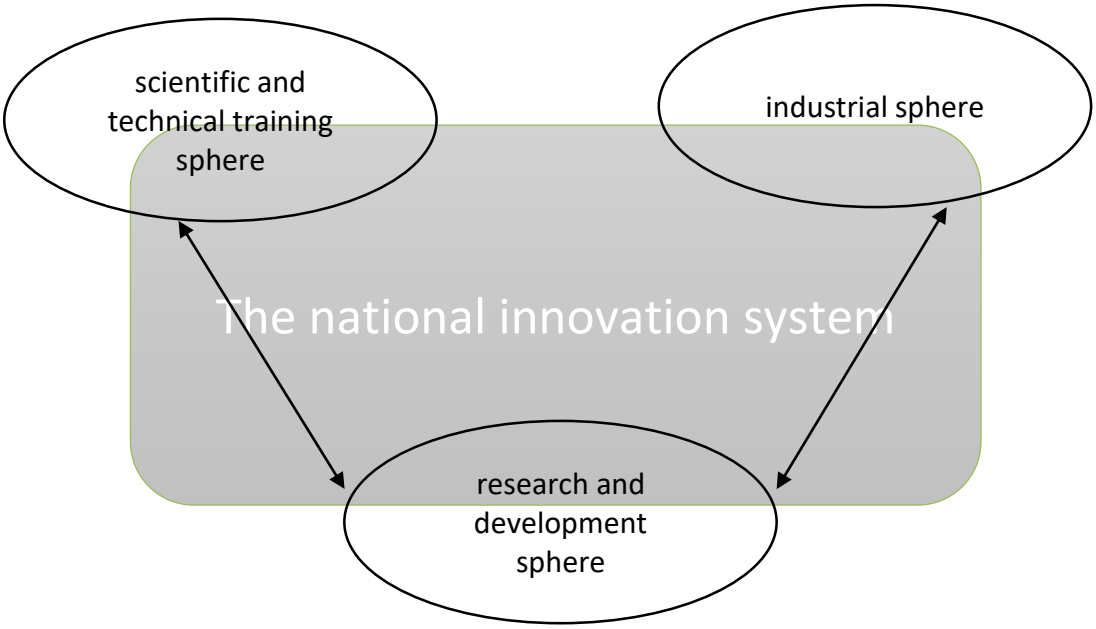
Source: DGRSDT (2019)

4 .Algeria's national innovation system:

The national innovation system (NIS) has benefited from a sustained interest which is reflected in particular through an abundant literature (The first integrated approach of the NIS however comes from Lundvall). The classic NIS diagram links three spheres: the productive sphere (the economic context and the industrial structure), the training sphere (training and the quality of human resources) and the research sphere (cooperation between companies and public research institutions), as shown in Figure 1. However, for the designers of the NIS, the national aspect is central insofar as technological development and flows between firms appear more frequently within national borders than in relation to the outside (Djeflat, 2003; Lundvall, 2010) .

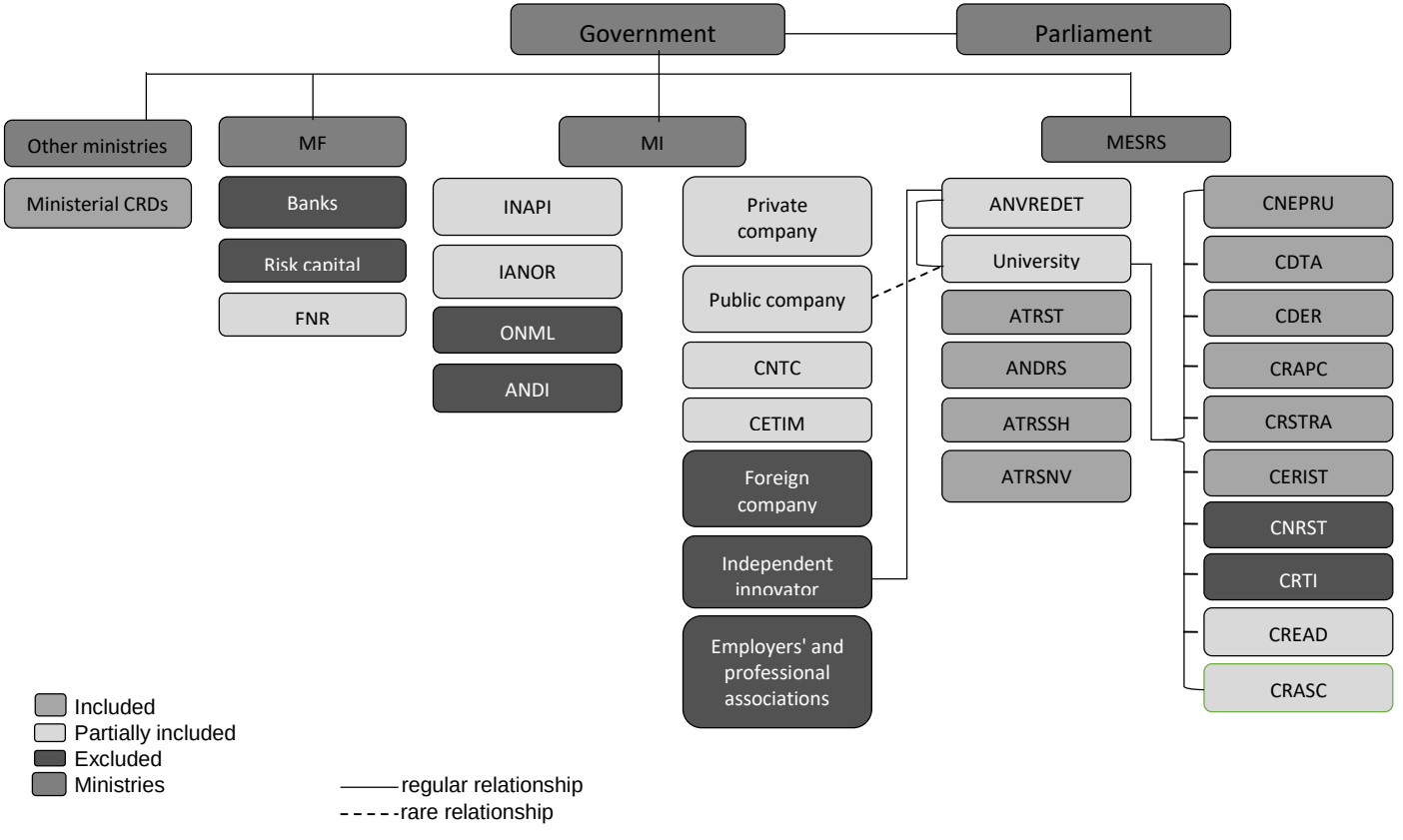
Interactions are mainly between producers - users of innovations, coupled with special links between social and political institutions, and supported by national policies for the coordination and financing of R&D.

Figure n°1: Basic diagram of the National Innovation System



Source: DJEFLAT.(2003)

Figure n°2: The national innovation system today: inclusion and exclusion



Source: expert group from the Ministry of Industry (updated)

However, an examination of the current system in relation to complete, coherent and integrated innovation systems shows that of Algeria so far suffers from a number of shortcomings, namely:

- Few operational links between the different components of the system in general, and we see that the private company is totally isolated from the rest, and as regards the public company, it very rarely establishes relations with the university.
- Institutions that should be part of the system are only partially there (INAPI, ANVREDET)
- Institutions totally excluded beyond their central administration, than by the innovation system (independent innovator, employer and professional association, etc.)
- Missing institutions which normally aim to coordinate this system in its entirety such as the Hassan II Academy in Morocco, the KAIST (Korean Institute of Science and Technology)

Nevertheless, the State (represented by the Ministry of Industry) and companies have deduced several causes of this failure;

5. Diagnostics:

5.1. State diagnostics:

As we know that innovation is essentially a business job, the following observation developed from reports (Devalan & Djeflat, 2008), studies and surveys by the ministry in charge of this case to provide a diagnosis concerning this idea;

1. Consulting is a service little used by companies, the profile of managers far removed from the culture of marketing and a fortiori from innovation (entrepreneurship) and the organizational mode adopted as functional.
2. In the absence of a clear innovation strategy, research activities for concrete innovation opportunities, in general in medium and small enterprises, and the stimulation of networking related to innovation do not constitute fundamental concerns of managers; to this end, the majority of companies do not have structures capable of generating new ideas.
3. The pressure inherent in daily activities, the search for immediate profitability and the lack of interest in intangible investment constitute obstacles to innovation as a key factor of success.

4. The attempted experiments in innovation launched in particular by public enterprises have not had any commercial follow-up; one of the most important causes is the phenomenon of discontinuity that has raged in the history of these companies (discontinuity in people and structures).
5. Among innovative companies, rare those which have a reliable information system (watch) concerning new technologies.
6. Algeria has invested colossal sums in human development; even that the percentage of students in science and technology is more than half, but the training provided is not adapted to the qualitative needs of the labour market.
7. The research and development process has often been blocked for lack of incentive measures, and for lack of appropriate funding and in view of the difficulties in commercialisation the results; the relationship between the company and the university is far from sustained.
8. The Algerian company rejects state aid by refusing to create a research and development entity (center or group) within it (the only condition decreed by law for the granting of funds). Then, the State promulgated a law in 2013 giving the possibility of creating mixed research entities, mixed with private and public resources to acclimatize the Algerian company to research and innovation activities, but this kind of assembly was very rare.

5.2. Companies diagnostics:

The following points are made from interviews with executives from different structures such as R&D, business intelligence and several engineers from different disciplines, different types and forms of companies;

1. Lack of strategies for innovation and this for the short or long term, so Business leaders are much more, if not absolutely for some companies, concerned only with turnover.
2. Lack of dedicated R&D budget (only salaries and office supplies).
3. There are no real R&D activities for some companies even if they have structures and researchers or / and engineers dedicated to these activities, and for certain sectors (especially pharmaceuticals) companies wait for an invention to become public.

4. The quality of the graduates is scientifically acceptable, but the trainings do not meet their needs
5. Companies are unaware of the existence of a national innovation system, and the university is rarely consulted and for some companies never, and as for research projects (necessarily which go through ANVREDET or those proposed by the DGRSDT) the companies blame the bureaucracy which represents itself as a dissuasive factor to carry out research.

Conclusions:

Indeed, many economists establish a link between the triptych, institutions, innovation and growth, and focus mainly on institutions which are "sets of habits of thought common to the generality of men" (Veblen, 1919) embodied by organized entities (the family, the firm, the State, the monetary system, etc.) which provide coalitions of individuals developing their own formal and informal coordination mechanisms, both to encourage and to limit the social and economic behaviours of individuals (Gauthier, 2004), and among these institutions the routinization of the perpetual processes of search for solutions to specific problems which leads to innovation. Thus, there must be a certain environment, or called by others the rules of the game (institutions) which promotes innovation and generates a certain growth which will subsequently make it possible to perpetuate and increase quality of this triptych.

the company tends to use its environment (innovation system) only to invest, for example, in all phases of technological creation; which can surely be explained by the fact that investments in the acquisition (appropriation) of production resources are less expensive than those devoted to the training of these resources (Uzunidis, 2004).

If institutional regulatory transformations are not enough to bring market, profit and property relations into line with the scientific power of production, no innovation can have the systemic scale it requires.

In addition to the obstacles to innovation mentioned above:

1. structural problems rooted in people's daily lives, in general, very widespread in underdeveloped countries, such as the lack of justice, corruption… These pains prevent the good and fair distribution of wealth, and also all the beneficial socio-economic aspects (purchasing power, employment, economic growth, growth of state revenues, well-being ...) that could engender innovation.
2. There is also a very serious technological (and scientific a priori) backwardness which, in my opinion, generates a lack of confidence

among researchers and a great reluctance of decision-makers to engage in the quest for innovations or simply create new ideas.

Finally, they have to create to "stay in the race", speaking of companies, but there can be no sustainable creation without coexistence with routines. To create means to break with pre-established patterns, to manage one's own fear of the unknown by taking calculated risks of course, and to manage the conflicts, which the creative rupture will not fail to generate, with the supporters of rationalizing orthodoxy, which is embodied in organizational routines, as reassuring as they are rigid.

The learning of agents within the firm is progressive and cumulative, and the speed with which agents develop new responses to new problems makes it possible to account for the firm's capacity to innovate. Collections of procedures, routines define both the culture of the firm and their ability to build their innovation and research programs. The future of the firm (or of an organization but also of a national economy) therefore depends greatly on its history and its present, that is to say on its ability to develop its own routines, distinct from other firms or economies.

References

Coudel, É., Devautour, H., Soulard, C.-T., Faure, G., Hubert, B., & Cockel, A. (2012). Apprendre À Innover dans un Monde incertain Concevoir les Futurs De l'agriculture et de L'alimentation. Éditions Quae.

Devalan, P., & Graba, G. (2008). (rep.). Conception du programme d'innovation dans le secteur industriel. Algiers, Algeria: Consortium AriaConsult .

DGRSDT. (2019). (rep.). statistics of patents and other forms of intellectual property of Algerian national researchers. Algiers, Algeria.

Djeflat, A. (2003). Les Systèmes Nationaux d'Innovation: entre Globalisation et Territorialisation Dynamiques Locales et Mondialisation, 44(special), 131–153.

Djeflat, A., Devalan, P., Youcef Ettoumi, F. (2008). (rep.). Evaluation des Politiques et Programmes d'Innovation dans le Secteur Industriel . Algiers, Algeria: Consortium AriaConsult.

Gauthier, O. (2004). Institutions, Innovation et Croissance Économique. l'Innovation et l'Economie Contemporaine , 45–62. https://doi.org/DOI 10.3917/dbu.uzuni.2004.01.0045.

The General Secretariat of the Government. Journal Officiel (1998).

INPED. (2005). (rep.). Etude sur la réalité de l'innovation technologique dans le secteur de la PME, etat des lieux et plan d'action, Algiers, Algeria : DECA.

Lundvall, B.-Å. (2010). National systems of innovation toward a theory of innovation and interactive learning. Anthem Press.

Uzunidis, D. (2004). Systèmes nationaux d'innovation, entreprises et État. l'innovation et l'économie Contemporaine, 115–141. https://doi.org/DOI 10.3917/dbu.uzuni.2004.01.0115

Veblen, T. B. (1919). The Place Of Science In Modern Civilization And Others Essays. Huesbsch.

Willemarck, P., & De Brabandere, L. (2006). Innover pour durer: Favoriser L'ex-centricité dans l'entreprise (1st ed.). De Boeck Université.

Annex:

meaning of acronyms :

MF : Ministère des Finances (Ministry of Finance).
MI : Ministère de l'Industrie (Ministry of Industry).
MESRS : Ministère de l'Enseignement Supérieur et de la recherche scientifique (Ministry of Higher Education and Scientific Research).
CRD : centre de recherche et développement (research and development center).
FNR : fond national de recherche (national research fund).
INAPI : institut national algérien de la propriété industrielle
IANOR : Institut Algérien de Normalisation (Algerian Institute for Standardization).
ONML : Office National de Métrologie Légale (National Office of Legal Metrology).
ANDI : Agence Nationale de Développement de l'Investissement (National Agency for Investment Development).
CNTC : Centre National des Technologies et du Consulting (National Center for Technologies and Consulting).
CETIM : Centre d'Etudes et de services Technologiques de l'Industrie des Matériaux de construction (Center for Studies and Technological Services of the Building Materials Industry).
ANVREDET : L'Agence Nationale de Valorisation des Résultats de la Recherche et du Développement Technologique (The National Agency for the Promotion of Research and Technological Development Results).
ATRST : Agence thématique de Recherche en Sciences et technologie (Thematic Research Agency in Science and Technology).

ANDRS : Agence Nationale pour le Développement de la Recherche en Santé (National Agency for the Development of Health Research).
ATRSSH : Agence Thématique de Recherche en Sciences Sociales et Humaines (Thematic Research Agency in Social and Human Sciences).
ATRSNV : Agence Thématique de Recherche en Sciences de la Nature et de la Vie (Thematic Agency for Research in Nature and Life Sciences).
ATRBSA : Agence Thématique de Recherche en Biotechnologies et en Sciences Agroalimentaires (Thematic Research Agency in Biotechnologies and Agri-Food Sciences).
CNEPRU : Comité National d'Evaluation et de Programmation de la Recherche Universitaire (National Committee for the Evaluation and Programming of University Research).
CDTA : Centre de Développement des Technologies Avancées (Center for the Development of Advanced Technologies).
CDER : Centre de Développement des énergies renouvelables (Renewable Energy Development Center).
CRAPC : Centre de Recherche Scientifique et Technique en Analyses Physico – Chimiques (Scientific and Technical Research Center in Physico-Chemical Analysis).
CRSTRA : Centre de Recherche Scientifique et Technique sur les Régions Arides (Center for Scientific and Technical Research on Arid Regions).
CERIST : Centre de Recherche sur l'Information Scientifique et Technique (Center for Research on Scientific and Technical Information).
CNRST : Conseil national de la recherche scientifique et des technologies (National Council for Scientific Research and Technology).
CRTI : Centre de Recherche en Technologie Industriel (Industrial Technology Research Center).
CREAD : Centre de Recherche en Economie Appliquée pour le développement (Applied Economics Research Center for Development).
CRASC : Centre de Recherche en Anthropologie Sociale et Culturelle (Center for Research in Social and Cultural Anthropology).
CRSTDLA : Centre de Recherche Scientifique et Technique sur le Développement de la Langue Arabe (Center for Scientific and Technical Research on the Development of the Arabic Language).
CRTSE : Centre de Recherche en Technologie des Semi-conducteurs pour l'Energétique (Semiconductor Technology Research Center for Energy).
CRSIV : Centre National de Recherche dans les Sciences Islamiques et de Civilisation (National Center for Research in Islamic Sciences and Civilization).

CRBT : Centre de Recherche en Biotechnologie (Biotechnology Research Center).
CRLCA : Centre de recherche en langue et culture Amazighes (Amazigh language and culture research center).
CRTA : Centre de recherche en technologies agroalimentaires (Agri-food technology research center).
CRA : Centre de recherche en agropastoralisme (Agro-pastoralism research center).
CRE : Centre de recherche en environnement (Environmental research center).
SONELGAZ : Société nationale de l'électricité et du gaz (National Electricity and Gas Company).
SNVI : Société nationale des véhicules industriels (National Company of Industrial Vehicles).
SIDER : entreprise nationale de Sidérurgie (national steel company).