

Industrial Property Rights and the Phenomenon of Counterfeiting in Algeria: Case Study of Tlemcen and Oran

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Abstract:

The protection of industrial property rights is fundamental to economic growth in general, as it makes it possible to combat the counterfeiting that plagues a large number of economies throughout the world. The aim of this study is to ascertain the effectiveness of the Algerian industrial property rights protection system through a survey of entrepreneurs in the manufacturing sector in the Oran and Tlemcen regions.

This study provides an insight into the degree of satisfaction of entrepreneurs with this system, as well as identifying the reasons for the development of counterfeiting in Algeria in the manufacturing sector, which can ultimately be explained more by a lack of willingness to protect on the part of Algerian entrepreneurs than by the failure of the industrial property rights protection system.

Keywords: industrial property rights, counterfeiting, manufacturing sector, entrepreneur, empirical study.

(JEL) Classification : K11, O43, O34.

1. Introduction:

Industrial property forms, together with literary and artistic property, the two branches of intellectual property. The economic analysis of industrial property rights is part of the economic analysis of law which, on the one hand, tends to understand the effect of the legal environment on the behaviour of individuals with economic considerations. On the other hand, it aims to rationalise legal texts so that legal rules aim at economic efficiency. The rules on the protection of industrial property rights are generally in line with the claims of WIPO (World Intellectual Property Organisation), which is based on a set of conventions and treaties concluded to ensure and promote the protection of industrial property rights over a wide area of the world. The protection of industrial property rights not only allows for the legal and secure use of these rights but also contributes greatly to the fight against counterfeiting, a phenomenon that is growing with technological developments that are increasing the sophistication of counterfeit products to the point of confusing the consumer. This is why it is necessary for a State to build a system of protection of industrial property rights that is effective and easy to access for entrepreneurs, particularly those active in the manufacturing sector, which is the sector most targeted by counterfeiting.

In this sense, we carried out a field study in order to discover the degree of satisfaction of entrepreneurs operating in the manufacturing sector in the region of Oran and Tlemcen. The results of this survey also allow us to know how these entrepreneurs react to the phenomenon of counterfeiting.

1.1. Research Problématique:

Counterfeiting of industrial property is a real problem for the national economy. The question that arises is the following:

Is it the Algerian industrial property rights protection system that is responsible for the spread of this phenomenon in the country, or is it a lack of awareness on the part of entrepreneurs of the danger that this scourge represents for their activity?

1.2. Research Aims :

To address this topic we have set two main objectives:

- To find out the level of efficiency of the industrial property rights protection system through (1) a brief literature review on the design of the rules governing industrial property rights and through (2) a satisfaction test among the entrepreneurs surveyed regarding the quality of services provided by this system.
- To demonstrate the seriousness of counterfeiting for any economy and to know the real reasons for the spread of this phenomenon in Algeria.

2. Industrial Property in Algeria:

According to Article 1.3 of the Paris Convention "Industrial property is to be understood in the broadest sense and applies not only to industry and commerce as such, but also to the field of agricultural and extractive industries and to all manufactured or natural products, for example, wines, grains, tobacco leaves, fruits, livestock, minerals, mineral waters, beers, flowers, flours" (WIPO, 2016, p 05). Industrial property rights protect signs that convey information about the goods and services offered on the market. The objective of this protection is to combat the illegal use of these signs that may mislead consumers. Industrial property takes several forms: patents, trademarks, industrial designs and geographical indications.

Economists and international organisations have long been interested in the relationship between the protection of property rights and economic growth. In the early 2000s a study conducted by the World Bank (EBRD, 2002) in 20 transition countries proved the negative link between economic growth and insecurity of property rights seeing a sharp contraction in GDP in countries characterized by a precarious protection of property rights (Hoff & Stiglitz, 2004, p 755). Other studies have shown the positive link between entrepreneurship and economic freedom formed essentially by the degree of protection of property rights (Nystrom, 2008, p 15). Thus the protection of industrial property rights is essential to launch the engine of growth whose engine is entrepreneurship. This is why it is necessary to establish a system for the protection of industrial property rights, not only in accordance with international standards but also meeting the expectations of the system's contractors.

2.1. Legislative framework of industrial property in Algeria:

Article 44 of the constitution stipulates that "The freedom of intellectual, artistic and scientific creation is guaranteed to the citizen. Copyright is protected by law". Thus, intellectual property with these two industrial, literary and artistic branches is protected by law. Since independence, industrial property has been entrusted to several bodies. the first was created in 1963 under the name of the National Office of Industrial Property (ONPI). Ten years later it was replaced by the Algerian Institute for Standardization and Industrial Property in 1973 in 1986, the National Trade Register Center took over part of the industrial property activities. .it was not until 1998 that all industrial property activities were grouped together within the Algerian National Institute of Industrial Property (INAPI), created by the exclusive decree 98-68 of February 21, 1998. Placed under the supervision of the Ministry of Industry and Mines, INAPI is a public establishment of an industrial and commercial nature (EPIC) endowed with civil personality and

financial autonomy. It ensures the registration operations of applications for protection of patents for inventions, trademarks, designs, models, designation of origin and integrated circuits. It is also responsible for industrial property legal information services and technical information services.

Since 1965 the Algerian State has concluded numerous treaties in order to gradually set up a system of protection of industrial property rights with international standards. The agreements relating to industrial property are:

- Paris Convention 1965, first convention for the protection of industrial property.
- Lisbon Agreement in 1972, for the protection of designations of origin and geographical indications.
- Madrid Agreement 1972, concerning the international registration of trademarks.
- Nice 1972, for the international classification of goods and services registrable as a trademark.
- WIPO Convention 1975, when Algeria became a member of this organisation.
- Nairobi Treaty 1984, for the protection of the Olympic symbol.
- Patent Cooperation Treaty 2000, to benefit from protection in PCT signatory countries through the filing of a single application at INAPI or WIPO.
- Madrid Protocol 2015, complementary to the Madrid agreement.

Many reforms were also initiated during the preparation of Algeria for its accession to the World Trade Organization. Indeed, the government has adjusted its legislation according to the provisions of the TRIPS Agreement (Trade-Related Aspects of Intellectual Property Rights) which is based on five main questions (WTO, 2021):

- How the basic principles of the trading system and other international intellectual property agreements should be applied.
- How to ensure adequate protection of intellectual property rights.
- How countries should appropriately enforce these rights within their territory.
- How to resolve intellectual property disputes between WTO members.
- Special transitional arrangements applied during the implementation period of the new system.

Within the Algerian Ministry of Commerce, there is a sub-directorate, established by exclusive decree of August 9, 2008, responsible for "ensuring the implementation and monitoring of WTO agreements related to trade in services and intellectual property and follow the related negotiations to ensure, according to the forms and procedures devoted to the notifications of use resulting from the agreements of the World Trade Organization relating to services and intellectual property and to take charge of the handling of disputes" (Institut de Recherche en Propriété Intellectuelle Henri-Debois, 2009, p 1). These agreements are based on principles that should bring many benefits in terms of intellectual property in Algeria. Among these:

- Non-discrimination in national treatment between nationals and foreigners, and in treatment for nationals of all trading partners at the WTO.
- Intellectual property must contribute to technical innovation and technology transfer.
- Governments have the right, under certain conditions, to take measures to prevent anti-competitive licensing practices, since very often licensing agreements impede the transfer of technology and thus inhibit competition.

2.2. The acquisition of patents, trademarks and industrial designs in Algeria

Based on the various international agreements, the Algerian government has established a legislative environment in terms of intellectual property which includes the following rules.

2.2.1. Invention patents

A patent is only valid in the country where it was issued. In Algeria, invention patents are issued by INAPI when it is a national application. An international application is also possible at WIPO level via the PCT (Patent Cooperation Treaty). In Algeria, a patent of invention protects innovations and inventions for a period of twenty years from the filing of the application and confers on its holder the exclusive right of exploitation (manufacture, use, distribution, sale, marketing, import and export of the protected invention), on condition that the annuities are paid. INAPI advises interested parties to carry out a prior art search among the patents protected in Algeria.

2.2.2. Marks

To register a trademark in Algeria, an application must be filed with INAPI. Applicants may be either domiciled in the national territory or domiciled abroad. For those who are domiciled abroad, they must be represented by an agent selected from the list of agents approved by the Ministry of Industry and Mines. This approach makes it possible to register trademarks on national territory. For an Algerian trademark to be protected internationally, two possibilities are available to interested parties. The first is done nationally by filing an application with the office (s) of the country (ies) where the interested party wishes to protect it by representing himself through an agent. The second possibility is done internationally via the Madrid system administered by WIPO. This procedure makes it possible to protect the mark in several member countries of the agreement and the protocol and confers protection as soon as the application is filed, that is to say before the registration certificate is obtained in the member countries of the protocol. The term of protection of a trademark is ten years from the date of filing, indefinitely renewable for the same duration provided that its holder proves the genuine use of the trademark in the year preceding the date of renewal.

2.2.3. Industrial designs and models

As in many countries, INAPI only protects original and new designs or models. The term of protection is ten years from the filing date. The first year of filing remains secret if the applicant does not publish the protected design. In the following nine years, the protection will be compulsorily published.

3. Counterfeiting of industrial property rights

3.1. Definition of counterfeiting

Counterfeiting is derived from the verb counterfeit which comes from the Latin “*contrafacere*” which means “to imitate”. according to the OECD, in its broadest sense means “any manufacture of a product which imitates the appearance of the product of another with the aim of making the consumer believe that it is the product of another. (OECD, 1998, p. 03). According to this definition, it suffices to imitate a single important characteristic of the product, such as labeling or packaging, to speak of

counterfeiting, which covers infringement of trademarks and copyright. This is the commonly accepted conception of counterfeiting based on the principle of imitation. However, the fundamental principle of the modern legal order is freedom. More specifically, in economic law, we speak of freedom of trade and industry by which everyone has the right to undertake and compete with others. In other words, this freedom gives the possibility of offering products and services identical to those available on the market. This conception assumes that products and services can be freely copied, which implies that imitation is free. Indeed, Vander Haeghen already underlined in 1947 that “the principle of free imitation is at the base of all evolution and it is inconceivable that a civilization could be formed without it” (Remiche, Cassiers, 2009, p. 280). Even economists (Shumpeter, 1914, p 52) believe that creative activities rely in some way on what has already been created by someone else. It is precisely for this reason that intellectual property laws have been adopted in order to enforce the exclusivity of the right of ownership and to limit the freedom to copy.

The development of information and communication technologies has greatly contributed to the rise of counterfeiting. Cyber-counterfeiting is the name given to the marketing of counterfeit products on the internet. The scourge of cyber-counterfeiting continues to grow. Buying and selling copied products is easier in e-commerce, because the consumer does not inspect the product with the naked eye before buying it. Its purchase decision is based on very attractive images and prices, which harm the economic interests of companies. The losses caused by the cyber-counterfeiting market are incalculable. Counterfeit products not only harm the reputation of the copied brands, but also these products can pose a threat to the health and safety of consumers, especially when it comes to poor quality drugs or cosmetics. Cyber-counterfeiting also causes financial losses to consumers, because if the product is intercepted by customs agents, it will be immediately seized and will not be refunded.

Despite consumer awareness actions, the phenomenon of counterfeiting is spreading all over the world because the mechanisms for combating this scourge are still weak and slow compared to the speed of transactions that take place in this trade, even in developed countries. Like France.

In 2019, counterfeiting represented 3.3% of international trade while the level of international trade stagnated due to the covid 19 pandemic (OECD, 2019). This rate was 2.5% in 2016 (OECD, EUIPO, 2016, p 11). Seized products infringing intellectual property rights are worth \$1.3 billion in 2020. 44% of these products originate from China (Hong Kong not included) (US Customs and Border protection, 2020, p 19). In the European Union the main sources of counterfeiting are: China, United Arab Emirates, Turkey (Doléac, 2019, p 05). The risks of counterfeiting affect all types of industry where it develops. The most dangerous risk remains that which affects food safety. The counterfeit food industry was ranked 11th in the 2014 Global Black Market Economy ranking. It made \$49 million.

Counterfeiting also damages the reputation of companies, as it affects the image of the brand. Indeed, consumers who are victims of counterfeit products no longer trust the brands of these products. The development of this phenomenon reduces the market share of legitimate owners, and distorts statistics at the global level. Global security is also affected by this scourge. Indeed, according to the United Nations Commission on Crime Prevention and Criminal Justice in 2014, counterfeiting is now the second largest source of revenue for serious crime globally. This link between counterfeiting and organized crime makes this phenomenon even more dangerous. Reasons for counterfeiting:

Counterfeiting takes advantage of the flaws of globalization. The circuits of globalization are used for the circulation of counterfeit goods. Among these circuits we can quote the free zones or the major ports and airports which are considered as privileged places for the distribution of counterfeit products. In addition to these channels which are well known and clearly visible by the host countries of these goods, there are areas which do not appear on the geographical maps, these are "white areas" also called "black holes". » Controlled by criminal networks. The development of the informal sector in African and Asian countries also promotes the marketing of counterfeit products. These three channels (free zones, black holes and the informal sector) are considered the main causes of counterfeiting.

Free zones

One of the main causes of the increase in these figures is the growing number of free zones in the world. In an OECD report entitled "Trade in Counterfeit Goods and Free Trade Zones" of March 15, 2018, it is stated that free zones unintentionally encourage the development of trafficking in counterfeit products. Indeed, in these areas economic activity is favored by light customs controls, restricted surveillance and reduced regulations, which facilitates the transit of these products. This report shows that exports of counterfeit goods are increasing with the number and size of free zones. That is to say that countries where there are a large number of free zones are export targets for counterfeit products.

In the same report it is indicated that the creation of a new free zone results in a 5.9% increase in the value of exports of these products from the host country. In 1975, the number of free zones was only 79 in 25 economies, whereas today it has grown to more than 3,500 free zones spread over 130 countries, in North and South America, Europe, Africa and in the Asia-Pacific region.

These areas have contributed enormously to attracting foreign investment and creating jobs. However, in return, they encourage illicit trade. Putting an end to the trafficking of counterfeit products while preserving the role of free zones as facilitators of legal trade is one of the main challenges for countries affected by this phenomenon.

Black holes

Black holes, also called "white zones" or even "ghost zones", are privileged transit points for criminal networks because they escape the control of the authorities. One of the most famous black holes is "China Mall" which is a Chinese super market located in the Emirate of Fujairah in the middle of the desert 40 km from Dubai. This area offers a wide range of counterfeits from many sectors (food, clothing, cosmetics, leather goods, etc.). This space is reserved for mafias from all over the world to place their orders. Counterfeit products come from China and are transported by air and sea, to destination points (Belarus, Turkey and Niger) so that they are redistributed all over the world. The falsification of transport documents makes it possible to avoid export controls, which facilitates the movement of goods to other countries.

It is important to note that the race for economic growth does not favor the fight against counterfeit trafficking, because the financial stake of globalization is more important than the fight against counterfeiting for most economies around the world.

The informal sector

The ILO considers the informal sector: “As a set of units producing goods and services with a view primarily to creating employment and income for the persons concerned. these units, having a low level of organization, operate on a small scale and in a specific way, with little or no division between labor and capital as factors of production. employment relationships, where they exist, are mostly based on casual employment, kinship or personal and social relationships rather than on contractual arrangements with formal safeguards” (ILO, 1993).

According to the WIPO, there are two ways to link intellectual property to the informal economy (WIPO, 2010, p 02). First, informal economy enterprises can produce trade names and technical innovations, however the fact that they are not officially incorporated prevents them from acquiring intellectual property rights, which blocks their development. Even if these companies pay no sales tax and do not have taxes on their income, and constitute a significant source of employment for the poor, they do not have access to the credit markets which is vital for the development of a business. It is also important to note that the social protection schemes do not cover the employees of these companies.

The second link between intellectual property and the informal economy is seen in the distribution of counterfeiting. Since these are illicit activities, the distribution of products infringing intellectual property rights is easily done in the informal sector through several channels (trading in suitcases, undeclared exchanges by tourists, etc.). As for the production of counterfeit products, it is done in clandestine workshops which form the informal sector. This is why countries plagued by the informal economy constitute perfect networks for the redistribution of counterfeit products. WIPO also considers that the short-term sanction for the perpetrators of infringements of intellectual property rights does not encourage limiting the breaking of the law, because the risk to be taken is low compared to what these perpetrators earn through these activities (WIPO, 2010, p 02).

The informal economy also escapes statistics. As a result, in the absence of reliable empirical data and information, it is difficult to find concrete elements to establish the link between the informal economy and intellectual property. Indeed, statistics relating to the informal sector. (e.g. income and expenditure statistics) do not provide information on intellectual property. To study the link between these two elements, it is necessary to carry out studies at the microeconomic level. However, since these investigations target illicit activities, they come up against legal obstacles and the problem of economic interpretation. in this wake WIPO considers that it is difficult to find what types of informal intangible assets could fulfill the conditions of protection by intellectual property and how this protection would affect the copying of these assets (WIPO, 2010, p 03).

3.2. The counterfeiting in Algeria

The increase in trade encourages the development of counterfeiting which affects all countries including Algeria. For many years, the fragility of the industrial fabric was at the origin of a massive importation of consumer products which gives way to the importation of counterfeit products at low prices which improves the purchasing power of Algerians. In general, the counterfeit market is supplied

by two channels: (i) local production which escapes all control and (ii) imports operated through informal circuits (Perret, Gharbi, 2008, p. 61).

3.2.1. Forms of counterfeiting in Algeria

A. The counterfeit produced in Algeria:

Despite the protectionist measures (import limitation, surcharge on imported products, etc.) taken to encourage Algerian production, and the advantages granted by the State (granting of consumer credit for national products, advertising campaigns, etc), numerous producers are unable to sell their products on the national market, because these non-standard products are unable to compete with quality products that attract consumers even with a high price. Counterfeit producers take advantage of the notoriety of products (local or foreign) well sold on the Algerian market to imitate their manufacture. It is either copying, imitating, pirating, diverting, clandestinely distributing, resembling, unauthorized use, etc. of trademarks, patents, industrial models, copyrights or neighboring rights. The counterfeit produced in Algeria may concern an Algerian brand, as was the case with the Toudja brand (mineral water) and the Ifri brand (mineral water) which were counterfeited respectively in 1999 and 2006 on clandestine production chains in Ain Oulmane, located 30 km from Setif (Setif Info, 2006). It can also concern a foreign brand, for example the Tunisian biscuit brand Major which was counterfeited in the same city of Ain Oulmane in 2006 (Setif Info, 2006). Another example, the Ariel brand which was counterfeited by adding salt to the laundry product and was distributed in the west of the country (Tiaret, Mascara and Saida) (El Watan, 2018).

The development of this phenomenon is due, on the one hand, to the lack of control of the competent institutions (in particular the trade department) which do not have the necessary analysis tools (control laboratories), and on the other hand, to the importance of the informal market which facilitates the marketing of local and imported counterfeit products.

B. Counterfeiting via importation

The quantity of imported counterfeit products reflects the importance of the size of the informal market in Algeria, which is the ideal place for their sale. Even some regulated traders benefit from the marketing of these products which, thanks to technological progress, are not distinguishable to the naked eye from the original products, and therefore are sold at the same price as the original products. All sectors are subject to counterfeiting (cosmetics, food, clothing, spare parts, etc.). The customs department declared that 455,516 (Radio Algérie, 2019) counterfeit products were seized during 2018. The majority of these products come mainly from China (71%), Bangladesh, India, Malaysia and Turkey. According to the Customs Directorate, sporting goods topped the list (59.19%) followed by textile products (24.96%), spare parts (14.85%), telephone accessories (0.66%) and in last place electrical appliances and watches (0.33%). This phenomenon continues to grow, the Algerian customs services seized 320,514 (Radio Algeria, 2019) counterfeit products during the first quarter of 2019, i.e. 70.36% of what was seized during the year former.

3.2.2. The fight against counterfeiting in Algeria

The responsibility for the spread of this phenomenon rests on several actors. Starting with the owners of intellectual property rights, in particular trademark holders, who very often refuse to take counterfeiters to court for fear of losing their customers. When they do, it is done with the utmost discretion so as not to damage the image of the brand, even if this scourge disrupts their sales forecasts and their marketing objectives on a global scale.

The problem of traceability hampers the fight against counterfeiting. When merchants buy without invoicing, it makes it difficult for security services to search and investigate.

The absence of a consumer culture amplifies the problem, because the consumer not being aware of the consequences of buying counterfeit products in the informal market makes the task of controllers even tougher. This is why it is necessary to educate consumers through advertising campaigns, fairs, etc. on the part of trademark owners so that they can differentiate between original products and counterfeit ones. The State on its part must also alert consumers to the health and safety risks of counterfeit products and encourage them to move towards legal trade.

The Algerian customs services can limit the extent of this phenomenon. Since 2002 the customs department has had a regulatory framework to fight against counterfeiting. The decree of July 15, 2002 determines the methods of application of article 22 of the customs code relating to the importation of counterfeit goods. The Finance Act for 2008 includes new customs provisions modifying and supplementing the provisions of article 22 of the customs code by creating article 22 bis which defines the fields of intervention of customs by even including products intended for export. And Article 22 quater which defines the destinations (destruction or auction) of goods recognized as counterfeit.

The decree of July 15, 2002 defines two modes of intervention of the customs services (Direction Générale de la Douane, 2018, p 02). The first consists of intervening on request, i.e. the interested parties (holders of the right or their 4) submit to the customs administration a written request aimed at obtaining the intervention of the customs services on goods presumed to be counterfeit. This request must be accompanied by the justification of the ownership of the right and a detailed description in order to recognize the counterfeit products. The second mode is that of automatic intervention, in other words, during the usual checks when the customs services suspect goods, they take samples and give them to the holder of the intellectual property right or his representative (agent) at of the purposes of expertise and analysis. Customs officers are now well trained to recognize counterfeit products, however the delay in the application of legal texts has let in a huge counterfeit network that is difficult to dissolve.

4. Empirical study on the link between the system of protection of industrial property rights and counterfeiting in Algeria

In order to evaluate the effectiveness of the industrial property rights (IPR) protection system, particularly in the fight against counterfeiting, we have carried out a field study based on a survey which aims to gather, by means of a questionnaire, the opinions and considerations of Algerian entrepreneurs on the IPR protection system, while seeking to find out how these entrepreneurs react to the counterfeiting that is very present in the Algerian market. This study will make it possible to determine whether it is the

system itself that is responsible for the spread of counterfeiting in Algeria or whether the answer must be sought from the entrepreneur's side.

The survey targets (private) companies in the manufacturing sector, which is considered the sector most affected by counterfeiting. The survey was carried out over a period of 11 months (from 01-10-2019 to 01-09-2020). Among the 183 companies targeted, we obtained responses from 45 companies located in the various industrial zones of the Oran region (Senia, Hassi Ameer, Arzew) and Tlemcen (Chetouane, Hennaya, Sabra, Remchi). These enterprises are of different sizes (22 small companies, 14 medium-sized companies, 05 large companies) and of different legal status (07 Joint stock company, 27 limited liability company, 05 one-man business with limited liability, 06 individual companies).

This study is divided into two parts. The first part aims to evaluate the IPR protection system in terms of quality of services. The second part aims to discover the reactions of entrepreneurs to counterfeiting.

In order to test our hypotheses, we used the chi-square test to study the existence of a relationship between two variables, the Phi coefficient to calculate the strength of the relationships and the contingency coefficient to measure the degree of association between the variables.

4.1. Entrepreneurs' views on the functioning of the industrial property rights protection system

Of the 45 companies surveyed, only 20 (44.4%) are registered with INAPI and only one is registered with WIPO. More than half of the sample is not registered with any industrial property rights protection body.

4.1.1. Causes of non-protection of IPR

We were interested in the reasons why respondents are not registered with IPR protection bodies.

68,6% of them do not see the point of registration, 11,9% blame the slowness of registration procedures, 7,8% are not aware of the existence of these bodies, 7,8% underline the cumbersome nature of the file to be provided, 3,9% consider that the costs of registration are high.

Thus, a large proportion of the entrepreneurs in the survey are not registered with the INAPI because they are not interested in protecting their industrial property rights.

In fact, the entrepreneurs who are registered with INAPI are rather satisfied with the functioning of the IPR protection system.

4.1.2. Satisfaction of INAPI registrants with its service qualities

We collected opinions on access to information, the length of registration procedures and the costs of registration.

A. Access to information

88,3% believe that information is easily accessible on the INAPI website. 9,6% finds it moderately accessible and 2,1% find it not accessible.

B. Length of registration procedures

66.6% of registrants find the registration procedures slow. 28.5% of them consider that they are reasonable and 4.84% find them very slow. Indeed, it takes between 6 and 18 months to obtain a certificate of registration of a trademark in Algeria, whereas this procedure takes only two months in Morocco and 14 months in Tunisia.

C. Costs of registration

71.4% find the registration costs affordable. 28.6% consider the costs to be high.

4.1.3. Do the characteristics of the entrepreneur and the company influence the decision to protect IPR?

We were curious to know whether this registration decision is affected by the characteristics of the entrepreneur (intellectual level, nature of the income and age of the entrepreneur) and by the characteristics of the company (size of the company, its date of creation, its R&D function and its legal status). We performed a chi-square test between the variable " INAPI registration" and these characteristics.

We suppose that null hypothesis ($H_0=0$) is that there is not a significant association between these variables. And the alternative hypothesis ($H_1 \neq 0$) is that there is a significant association between these variables. The results were as follows:

Table (01): Chi-square test results between Registration at INAPI and company characteristics

Chi-square	Value	Ddl	P. Value
INAPI registration and size of the company	5,584	3	0,134
INAPI registration and date of creation of the company	1,665	3	0,645
INAPI registration and R&D function	1,401	1	0,282
INAPI registration and legal status	1,654	3	0,647
Level of signification 0,05			

Source: Compiled by the author from SPSS 22 results

The P. Values of the four tests are not significant at the 0.05 level (we accept the null hypothesis), which means that neither the size of the company, nor its legal status, nor its creation date, nor the Research and Development function influences the decision to protect its intellectual property rights.

Table (02): Chi-square test results between INAPI registration and entrepreneurial characteristics

Chi-square	Value	Ddl	P. Value
INAPI registration and intellectual level	1,779	2	0,411
INAPI registration and nature of income	0,27	2	0,987
INAPI registration and age of entrepreneur	3,378	3	0,337
Level of signification 0,05			

Source: Compiled by the author from SPSS 22 results

The P. Values of the three tests are not significant at the 0,05 level. The results of this table show that education, age and income level do not influence the decision to protect IPR.

Not protecting oneself means that the entrepreneur is more exposed to counterfeiting. This is why we were interested in the reaction of the entrepreneurs in the survey to the extent of the counterfeiting phenomenon in this second part of the study.

4.2. Entrepreneurs' reaction to counterfeiting

35.6% of the entrepreneurs in the survey are victims of counterfeiting. 75% of this counterfeiting was done by imitation and 25% by reproduction. Only one entrepreneur stated that his trademark was counterfeited abroad. The rest of the counterfeiting took place in Algeria.

4.2.1. Relation between the IPR protection and the counterfeiting

Theoretically, the phenomenon of counterfeiting is linked to the degree of protection of intellectual property rights. Registration with the relevant organisations would help to limit this phenomenon. To verify this conclusion, we studied the relationship between the variable "being a victim of counterfeiting" and "INAPI registration" in order to determine whether there is a significant association (alternative hypothesis $H_1 \neq 0$) or not (null hypothesis $H_0=0$). The results are summarized in the following tables:

Table (03): INAPI Registration * Being a Victim of Counterfeiting Contingency Table

		Being a Victim of Counterfeiting Contingency		Total	
		Yes	No		
INAPI Registration	Yes	Count	13	7	20
		Percentage	81,3%	24,1%	44,4%
	No	Count	3	22	25
		Percentage	18,8%	75,9%	55,6%

Total	Count	16	29	45
	Percentage	100%	100%	100%

Source: Compiled by the author from SPSS 22 results

Table (04): Chi-square test Between INAPI Registration and Being a Victim of Counterfeiting table

	Value	Ddl	P. Value
Chi-square of Pearson	13,621	1	0,000
Level of signification 0,05			

Source: Compiled by the author from SPSS 22 results

Table (05): Strength of relationship test

	Valeur	Signification
Phi	0,550	0,000
contingency coefficient	0,482	0,000

Source: Compiled by the author from SPSS 22 results

The P. Value is significant at the 5% level, which allows us to reject the null hypothesis and accept the alternative hypothesis, thus concluding that there is a significant association between INAPI registration and victimisation. The Phi test (used due to the size of the 2x2 table) gives us a value (0,550) which is far from 1. Therefore the relationship is not very strong. The contingency coefficient shows a result (0,482) between 0,2 and 0,5, which means that the relationship is of medium strength.

In other words, those who are registered with INAPI tend to be victims of counterfeiting, whereas theoretically the relationship should be negative between the two variables. This means that the protection of property rights is not sufficient to deal with counterfeiting.

4.2.2. Legal proceedings against the counterfeiters

We wanted to know whether victims of counterfeiting have sued counterfeiters.

8,9% answered positively and 91,1% answered no.

In order to find out the reasons for this reluctance to take legal action, we asked the following question: What would discourage you from taking legal action against the counterfeiter?

First cause: costs of legal proceedings

64,4% of the respondents considered the costs of the lawsuit to be high, 20% consider the costs to be very high, 11,1% consider them affordable, 4,4% find them high.

Second cause: the length of the legal proceedings

62,2% consider them to be slow, 24,4% think they are very slow, 8,9% consider them moderately slow, 2,2% find them fast, 2,2% consider them very fast.

Third reason: the number of counterfeiters is very high in the market

35,6% of entrepreneurs agree with this reason, 24,4% agree very much, 26,7% do not agree, 11,1% somewhat agree, 2,2% do not agree at all.

Fourth cause: counterfeit products do not hinder the expansion of entrepreneurs' products

28,9% of respondents agreed with this suggestion, 28,9% disagreed at all, 24,4% 13,3% moderately agreed, 4,4% strongly agreed.

We find that almost half of the entrepreneurs believe that counterfeit products more or less do hinder the expansion of their products. Also almost half of the entrepreneurs believe that the number of counterfeiters in the market is very high, which makes prosecution almost impossible.

4.3. Discussion of the results

The responses related to the questions on the quality of service of the industrial property rights protection system concluded that entrepreneurs were satisfied with this system, apart from the slowness of the procedures which entrepreneurs complain about. The latter is part of the administrative heaviness responsible for Algeria's ranking of 157th (out of 190 countries) in the Doing Business climate ranking for the year 2020.

The results of the study confirm the degree of progress in reforms aimed at implementing an IPR protection system at international standards. WIPO admires the Algerian government's efforts in this regard and encourages it through the opening of a field office in Algiers in February 2019. This action is a positive step towards strengthening the IPR protection system in Algeria and the region.

Developing an effective IPR protection system is a crucial means to fight counterfeiting. However, according to our study, not only do more than half of entrepreneurs not protect their IPR, but also those who do are victims of counterfeiting.

The reluctance to protect IPR is not caused by the quality of the services of the IPR protection system. Rather, it is the entrepreneur who is responsible for this reluctance. Indeed, some entrepreneurs prefer to rely on word of mouth for the marketing of their product and trust the judgements of consumers who they believe can recognise their quality product, while counterfeiting techniques are constantly improving to the point of easily misleading the consumer. This is why INAPI periodically conducts awareness campaigns to encourage rights holders to protect their rights for two main reasons: (1) to prevent consumers from being confused with counterfeit products that are dangerous to their health and safety, and (2) to limit the damage to the image of the company concerned by the counterfeit.

5. Conclusion

The results of the survey show that the entrepreneur may be just as responsible for the spread of counterfeiting as the causes usually cited to explain this phenomenon. Indeed, even if the system of protection of property rights is effective, the fact remains that if the entrepreneur does not take the initiative to protect these rights, they will remain exposed to infringement by counterfeiting, just as he will not be able to benefit from legal solutions to remedy this infringement. Therefore, the state should deploy other means to limit counterfeiting. The Ministry of Trade does not have the task of combating counterfeiting, but its agents may intervene on products that do not conform or are dangerous for consumers. The Directorate General of National Security has teams specialised in combating counterfeiting. The State should also make a greater effort to reduce the importance of the informal sector, which is a convenient distribution channel for counterfeit products.

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