

Intellectual Property and Patent Rights Protection for Innovators in Jordan

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Abstract: *Inventions do not come in one format, so the right holder varies according to the occasion it reaches them. Only the financial rights are transferred to employers while the moral rights remain in the interest of inventors, as they are among rights closely related to personality and may not be waived with or without compensation. The worker's information, which is mainly associated with the establishment activity, becomes a weapon against employers if it falls into the hands of their competitors. Therefore, this research paper aimed to clarify what is meant by the worker and the employer, then define the invention types that the worker reaches during the implementation of the work contract. The study aims to distinguish labor law from other laws and then clarify the laws regulating the protection of workers' inventions, their consequences, and what rules apply to it. The study also describes the legal effects that result before and after reaching the invention, as well as the rights and obligations of each party. This study followed the analytical approach of texts to get study results. Results showed that there are differences in the trademarks granted to foreign students, which necessitate attention in the applications granted to resident Jordanians and showed that there are differences for patents granted to foreign applications. Results also showed that Jordanian legislator came with a ruling that differs from what was stated in the Saudi law and the Omani patent law because the provisions of the Jordanian law talked about the case of accidental inventions and free inventions only. The study recommended adding some items to laws and legislations to be enforced in Jordan and deleting some texts and phrases that harm inventors. The study also recommends necessity to amend the text of article (22/b) of Jordanian labor law by deleting the phrase (unless otherwise agreed in writing) and replacing it with the phrase (and any agreement to the contrary is considered void).*

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1. Introduction

There is no doubt that the disputes related to intellectual property rights before the Jordanian judiciary are constantly expanding and increasing. Based on this, Hashemite Kingdom of Jordan has been keen to continue its continuous efforts in creating modern legislation that deals with intellectual property rights in general and updating this legislation governing those rights and making them compatible with the conventions. The relevant international law realized importance of these legislations in providing an attractive investment environment, in addition to the importance of these legislations in progress, prosperity, and growth of society in all areas of life (Abdel-Latif, 2014), where intellectual property refers to the mind's creations of inventions, literary and artistic works, designs, logos, and names and images used in commerce. Intellectual property is legally protected by rights, such as patents, copyright, and trademarks, that enable people to gain recognition or financial benefit from their innovation or invention. By establishing a proper balance between innovators and the interests of the public, the intellectual property system aims to provide an encouraging environment for flourishing creativity and innovation (Ahmad, 2019).

As part of the international trade agreement discussed in the Uruguay Round, WTO member states signed the Agreement on High Levels of Protection of Intellectual Property Rights in the TRIPS Free Trade Agreement (in 1994, the TRIPS Agreement set out minimum standards for intellectual property rights protection), where WTO member states must include in their domestic laws, and TRIPS Agreement has been reputed to have standardized intellectual property provisions at a high level around the world (Al-Balushi, 2014).

Under the terms of its accession to the WTO agreement in 2000, Jordan was required to bring the additional provisions of the PLUS-TRIPS agreement into its national laws with the patent. Shortly after that, the United States and Jordan negotiated a free trade agreement since the first free trade agreement, which established a new framework for the additional provisions of the TRIPS Agreement. PLUS-TRIPS (subsequent FTAs entered into by the United States and other countries in the Procedure for the Additional Provisions of the TRIPS Agreement) imposed on them by business partners by business partners. Intellectual property act deals with commandments that safeguard and impose the rights of creators and owners of intellectual property, where artists, inventors, writers, and more would be protected by these laws (Golden Gates University, 2019). The Law on Intellectual Property was initially promulgated in 2009 and regulates Intellectual Property rights. However, practical implementation along with Vietnam's extensive international integration in recent years shows that LOIP still has some practical issues and inadequacies (ACCLIME, 2023).

1.1 Problem Statement. There is no doubt that recognition and approval of legal systems by providing legislative protection for inventions at the national level aims primarily to encourage the spirit of invention and creativity among members of society. Economic progress is the mental and physical effort that the inventor makes to reach the invention in the final form and achieve the desired goals in work. We must search for a legal system that works to motivate these workers, support them financially and morally, and care for them to the maximum extent possible, providing them with all means to encourage creativity, innovation, and development.

Intellectual property rights, like all property rights, guarantee that creators or owners of patents, trademarks, or copyrighted works can benefit from the effort or money they put into their creativity. There is also no doubt that the guarantee of any protection that the law extends to any right finds its support and even its mainstay in the procedures for settling any dispute that may arise regarding this right. The easier the dispute resolution procedures are, the more the right is protected. The main problem with protecting intellectual property in the Hashemite Kingdom of Jordan is not the absence of substantive legal texts that recognize these rights. The Jordanian government has previously issued laws and regulations related to intellectual property that has passed through their necessary constitutional stages. Applying these laws and enforcing intellectual property rights for the benefit of their owners by the competent authorities, especially the judiciary.

1.2 Study Questions

1. Is there an impact of laws and regulations on intellectual property and patents?

2. Are intellectual property and patent protection laws considered determinants of intellectual property protection?
3. Is there an impact of laws and legislation on the protection of property rights and patents?
4. Are penal sanctions commensurate with laws and legislation to protect property rights and patents?

1.3 Study Importance. This study highlights the importance of this study and aims to draw the attention of Jordanian legislators to the seriousness of worker's rights issue to invention and to prompt legislators to pay more attention to workers' inventions and motivate them to do it, as well as to develop and organize the legal rules that allow inventors to help workers, which will inevitably push them to make more effort and time to reach new inventions, at a time when we notice the increasing interest of major industrialized countries in work, technology, and invention, where these countries are setting up legal and social systems to provide all means and material and moral requirements for inventors, which opened the way for them to do researches and inventions reflected by the development of these countries more and more. The study also aims at examining the legal system for workers' material rights in the invention they reach through their association with employers' work contracts and by removing the conflict between legal texts contained in the Labor Law and the Patent Law, as well as defining rules of any law prior to the application than others if dispute between the two parties.

2. Literature Review

Farid's study (2001) considers somewhat old because it relied on analyzing texts of Jordanian Patent Law No. (32), 1999 AD, in which the Patent Law amended No. (71), the year 2001 AD. This study has been used in a Jurisprudence position statement as one of the workers' inventions, where its provisions related to the first law that applies to workers' inventions. Ayesh study (2003) addressed the researcher's interest and opinion in topics he dealt with and used to explain the rights and obligations of both workers and employers and the manifestations of rights given to workers' inventions. The study by Jabareen (2010) aimed to examine the issue of civil protection for the unregistered trademark by analyzing the texts of Jordanian Trademarks Law No. 33 of 1952 and its amendments. The Unlawful Competition and Trade Secrets Law No. 15 of 2000 and the Jordanian Civil Law for general rules of responsibility, where the Jordanian legislator has assumed civil protection for the well-known trademark, even if it was not registered.

In a study by Al-Qatishaat (2010), the writer tried to remove some areas of ambiguity to identify the place of penal protection represented in the works that stressed the author's personality, where it was the subject of penal protection in international laws and conventions. However, other forms of abuse fall outside the limits of penal protection established under copyright laws, which can occur on computer programs, such as theft or destruction. Here, the question arises about whether it is possible to protect computer programs from attacks not provided by copyright laws through texts. Legal provisions in the Penal Code were established to protect funds because the information contained in computer programs is considered a form of money. Due to its economic value, which is subject to sale and purchase, this problem requires legislators' intervention and the issuance of a particular law for computer crimes.

The research (Al-Nasser & Haddadin, 2014) examined whether public ownership of copyright can include elements other than works whose protection period has expired, such as ideas and information which cannot be protected by intellectual property. The study also analyses why legislator uses the term public property to denote works of the expired protection period. The same is used in administrative law to denote funds owned by the state or another person of public law and allocated for the public benefit. The answer to these questions will be by returning to general principles of civil law, where this study will conclude that works passed into public ownership consider common. In copyright, the direct or indirect use of intellectual property technology will not prevent individuals from owning part of the work that has been transferred into public domain; just like solar energy or water.

The study by Shaaban (2015) showed that human intellectual and mental output is one of the most important innovations, creations, and rights humans strive to protect and preserve. It is one of the rights attached to individuals and the result of an individual or joint effort by a group of creators and innovators who have come up with a creative, innovative, and novel work are the most important elements. Intellectual output and innovation are often linked to a productive and economic aspect that benefits owners. It has been known economically that intellectual production invents logos, names, images, and designs used in the economy and business. As a result, the interest in this output and effort began. Institutions and states have national duty to find ways to develop intellectual property rights for digital computing by nurturing, paying attention,

and keeping pace with information revolution and tremendous development in the world, as well as protecting the intellectual creativity of local people and foreign investors; provided that it contributes to the support, development, and advancement of national economy.

A United Nations study in 2019 showed intellectual property as an important legal structure in today's economy that depends on technology and knowledge. Intellectual property policies are essential in managing research and development and promoting innovation and entrepreneurship. Intellectual property rights form part of a complex bilateral system, and regional and multilateral treaties have been developed since the nineteenth century. The study suggested some practical solutions to balancing strong intellectual property protection. It may harm the public interest, especially in disseminating knowledge and a weak intellectual property system that cannot be sustainable because researchers are not encouraged to innovate, which curtails the innovation process. They also propose an assessment tool for intellectual property systems, enabling authorities to identify the effectiveness of systems and their loopholes from the start of any protectionist action right up to commercialization.

Haroun's (2020) study showed that disputes related to intellectual property rights presented to the Jordanian judiciary are expanding and increasing continuously. As a result, the Hashemite Kingdom of Jordan has been keen to continue its continuous efforts by creating modern legislation that deals with intellectual property rights in general, updating these legislations that regulate those rights, and making them compatible with international conventions. Relevant states realized the importance of these legislations in providing an attractive investment environment and its importance in the progress, prosperity, and growth of society in all areas of life. In addition, the study showed that ensuring any protection simplified by the law for any right finds its support, rather its mainstay in the procedures for settling any dispute that may be raised regarding this right, where the easier dispute resolution procedures are, the more rights will enjoy the required protection.

3. Theoretical Study

Small and medium enterprises globally represent (90%) of all companies and employ (70%) of workers, according to Zain Al-Awamleh, Director of the Directorate of Industrial Property Protection at the Ministry of Industry, Trade, and Supply. It means that companies are the engine that drives the economy in Jordan and worldwide. Like developed countries, Jordan tries to advance scientific and creative production through many programs, projects and systems aimed at protecting intellectual property rights in their industrial forms, such as trademarks, patents, and industrial designs and models, according to the factors that confirmed the remarkable development in this context (Haddadin & George, 2012).

It indicates that the total registered trademarks from the beginning of this year until the end of last March amounted to about 1985 registered trademarks, as well as the registration of 28 applications for industrial designs and models, while the certificates of initial acceptance of the patent amounted to about (74) certificates, compared to the same period last year. It amounted to about 1618 registered marks, (23) registered applications for industrial designs, and (38) initial acceptance certificates for the patent. Compared with the number of foreign and local patents registered in Jordan for 2019 and 2020, the increase in patent registrations for the past year reached (79%) compared to 2019.

Intellectual rights, in general, are as old as man himself. People have known them since the beginning of their lives and have taken care of them over the years. However, intellectual rights emerged tangibly in the wake of the industrial revolution and then crystallized in the past decades until they became one of the most prominent features of the era in which we live and the criterion for progress. The definition of intellectual property rights is any and all rights associated with intangible assets owned by a person or company and protected against use without consent. Intangible assets refer to non-physical property, including right of ownership in intellectual property, which consists largely of ideas and knowledge, it is a vital element of parallel trade (Pharmaphorum, 2023).

As for Jordan, the Ottoman law issued in 1879 related to intellectual rights was the applicable law regarding Concerning trademarks. While Transjordan was part of the Ottoman Empire before World War I and after this war, Transjordan became under the British Mandate. In the meantime, it adopted a law registering trademarks named Trademarks Law of 1930. Then, it was canceled and replaced by the Trademarks Law of 1938, where after the independence of Jordan in 1946, the government enacted the following laws regarding trademarks, which are still in force:

➤ The Trademarks Law of 1952, as amended by the Amended Law No. 25 of 1975 and the amended Law No. 34 of 1999, which in Article 47 repealed the Jordanian Trademarks Law of 1930. All its amendments, the Palestinian Trademarks Law No. 35 of 1938 and all its amendments, and all Jordanian or Palestinian legislation issued before the enactment of this law to the extent that the provisions of those legislations are different from the provisions of this law.

- The Trademarks Law of 1952.
- Merchandise Marks Law of 1953.

Jordan has enacted many laws and legislations that will abide by the protection of intellectual property and patents, which we summarize in some detail as follows:

First: Industrial Property. They are the aspects of intellectual property related to the inventions and innovations humans have created in the industry field that have contributed to solving specific problems.

Legislative environment for industrial property rights:

- Trademarks Law No. (33)/ 1952, which amended by Law No. (34)/ 1999, and Regulation No. (1)/ 1952, which amended by Law No. (37)/ 2000.
- Patent Law No. 32 of 1999 amended by Law No. 71 of 2001 and Regulation No. 97 of 2001.
- Industrial Drawings and Industrial Models Law No. 14 of 2000 and Regulation No. 52 of 2002.
- Law No. 10 of 2000 on Design Protection for Integrated Circuits and Regulation No. (93) of 2002.
- Geographical Indications Law No. (8)/ 2000.

Second: Patent. It is a creative idea that the inventor comes up with in any field of technology related to a product, a method of manufacture, or both. It practically leads to solving a specific problem in any of these areas. Among the conditions that must be met for granting protection as stated in Jordanian law are the following:

- It is new in terms of industrial technology and unprecedented in its disclosure to the public anywhere in the world by any means by which knowledge is achieved before the date of application or before the date of its priority.
- It involves an inventive activity, the attainment of which was not evident to the ordinary man of the profession who is familiar with the state of the art before the subject matter of the invention.
- It must be industrially applicable so that it can be manufactured or used in any area of life.

Where the Jordanian law clarifies the rights of the patent owner as follows:

- Preventing others from making, exploiting, displaying, selling, or importing the product subject of the invention unless the patent owner obtains the approval of the patentee if it is a product.
- Preventing others from using the method of manufacture, using the product made of it, offering it for sale, selling it, or importing it if the patent is a method of manufacture. The patent owner has the right to assign it to others or contract a license to exploit it.
- Conducting research and development operations is not considered an infringement of the patent.
- The law indicated that the term of protection is twenty years, starting from the date of filing, and it is renewed annually at the request of its owner.

While the law clarified that invalidity of patent occurs in the following cases:

- Expiry of protection period.
- Issuance of a final judgment nullifying it by the competent judicial authority.
- Failure to pay annual fees after six months.

Third: Brands. It is any visible sign that any person uses or wants to use to distinguish goods, products, or services from others, whereas Jordanian law stipulates the conditions that must be met in the marks:

- To be a distinctive character in terms of names, letters, shapes, colours, etc., or any combination.
- To be perceptible by sight.

The Jordanian law also clarifies marks that may not be registered and the most beautiful of them as follows:

1. Marks that resemble the emblem of His Majesty the King, the royal insignia, the word royal, or any other expressions lead to the belief that the applicant enjoys royal patronage.
2. The logo or mark of the Jordanian government or other countries, unless authorized by the positive references.

3. Marks that indicate an official capacity.
4. Those resembling the national flag, Jordan's military flags, honorary decorations, or insignia.
5. Those that include words such as: privileged, royal privileged, registered, registered fee, copyright, imitation is considered forgery and the like.
6. Those that disturb public order or public morals, or those that lead to deceiving the public, or those that encourage unfair commercial competition, or that indicate other than their true source.
7. Those consist of numbers, letters, or words usually used in commerce to distinguish the types of goods or that describe the kind or type of goods or words that indicate a geographical meaning or titles unless they are mentioned distinctively.
8. Marks that match or are similar to any logo of a purely religious character.
9. Marks that contain the image of a person, his name, the name of his business, or the name of a company or body, except with the consent and approval of that person or body.
10. A mark that is identical or similar to a mark belonging to another person previously registered for the same goods or class thereof, or a mark that resembles that mark to the extent that it leads to deceiving others.
11. Marks identical or similar to the Red Crescent or Red Cross emblem on a white ground or emblems of Red Cross or Geneva cross.
12. A mark that is identical, similar, or constitutes a translation of a well-known trademark because it is used for matching or similar goods to the goods for which it was famous or to other interests in a way that is likely to cause harm to the owner of the well-known mark and suggests a connection between him and these goods.

The law specified that registration period for trademarks is ten years and can be renewed for similar periods; at the request of their owners, considering that it is a judgment written off with lapse of one year from expiration date where third parties have the right to extend registration for another year. The law also permitted to transfer trademarks' ownership, mortgage or seizure, and licensing of its use to others, where Jordanian labor law no. (8)/ 1996, and its amendments explained that provisions applied to all workers and employers without specifying the nature of business or circumstances of employers.

According to a part of jurisprudence, there are two types of work. These are subordinate work, which is based on subordination to the employer, and independent work, in which there is no kind of dependency, as all the rules of labor laws apply to all workers and employers regardless of the type of work and the amount of wages received by the worker, which falls under the subordinate work. It aims to prevent human exploitation of humans (Jordanian Design Protection Law for Integrated Circuits, 2000).

Classifying workers' inventions is essential because it has important legal implications. As we will see, therefore, it is necessary to search for an accurate classification of inventions that worker reached during the implementation of work contract, due to their different provisions and to facilitate the application of legal rules related to each type since each of them determines rights and arranges obligations, which differs from other types (Al-Daoudi, 2004). The general rule in inventions requires that two types of rights be established for the inventor in the event of the invention. The first type is a moral or moral right, which is the right of inventors to relate the invention to them; and this right, is considered one of rights closely related to the personality that may not be waived in any way to others for consideration or without it. The second type represents the financial right to exploit invention financially and this right is proven to inventor and others and may be waived (Al-Masarweh, 2008).

In general, all form of inventions fall into three types; first one described as a facility invention and is called the service invention, second described as an accidental invention, and the third described as a free invention. Despite the different legal provisions of these types; literary common denominator that unites them for inventors only decide the rights to follow, where inventors' workers always reserve the moral right to reach inventions; regardless the appropriateness of methods use to reach them. Otherwise, any agreement that demand the attribution of inventions to its creator or innovator owner considered invalid (Zain Al-Din, 2000).

The general principle in concluding contracts is the free will of the contracting parties. The two parties to the work contract are free to agree on how the rights arising from the inventions that are reached will be interpreted. From getting that invention, various legislations called for the development of general rules regulating the rights resulting from this type of invention to indicate when this right is proven to the innovator and when it is proven to others (Zain Al-Din, 2000). We find that this was decided by Jordanian law when stipulated in Article (820) of the Jordanian Civil Law No. (43)/ 1976.

First: If the innovator leads to an invention or discovery during his work, the employer has no right to it except in the following cases:

- If the nature of work agreed upon is aimed at this end.
- If it is expressly agreed in the contract that they shall have the right to all inventions, which workers are guided.
- If the workers arrive at their inventions using materials, tools, installations, or any other means that employers put under their hand to use for this purpose.

Based on this article, civil law gave the right to innovators and considered this to be the original regarding inventions or discoveries they made while doing work for employers. If one of them is available, the rights to invent workers become for employers and not for workers, and these cases are:

First. If the nature of the work entrusted to the worker is research and deduction, and this is achieved when the worker contracts with the employer to work to arrive at an invention or if the employer has employed the worker to reach inventions, innovations or discoveries so that the worker's task is originally an innovative mission aimed at getting inventions.

Second. If the contract expressly stipulates that the rights of the worker's inventions or discoveries belong to the employer, even if the worker's task is not innovative. In this case, the worker should be devoted to invention and innovation. The employer should put all the inventions required to achieve this purpose at his disposal. The rights of these inventions shall be transferred to the employer.

Third. If the worker who is not primarily charged with invention and innovation has reached an invention so that he could not have reached this invention except using materials, tools, materials, laboratories, means and data of the employer, which were consumed and used to get the invention, and they represent a material loss for the business owner, which he put in the hands of the worker, the rights arising from this invention belong to the employer and not to the worker, and this is not considered a waiver by the worker.

Fourth. The civil law took into account that if the invention was of great economic importance as it gave the worker the right to obtain a special consideration in which requirements of justice and logic are taken into account, in addition to possibilities provided by the employer that facilitated access to the invention, provided that this does not affect the wage agreed upon between the two parties, which is what the worker deserves for work.

Law No. (22)/1953 related to inventions privileges and fees consider the first law that regulates rights of invention in Jordan, since all previous legislations related to registration of patents and fees were eliminated. There is an increased global interest in intellectual property topic and inventions as one of its basic themes, where the Jordanian legislator kept pace with this development by making an amendment on the patent law no. 32/1999 that has been stopped; in accordance with the directive of inventions and fees privileges law no. 22/1953, therefore the patent law was entirely reorganized into article (5), especially by adding items related to workers' inventions. The Jordanian legislator has made several amendments to patent law since its formation; where most prominent are the following regarding worker's right to invention:

The Patent Law no. (32)/1999: Article (5) of the law regulates the right to a patent, including inventions that workers discovered during the implementation of work contract as follows:

1. The employer may when the invention resulted from a work contract that obliges the worker to carry out a specific innovation activity unless the contract stipulates otherwise.
2. If the invention has an economic value that exceeds the expectations of the two parties when signing the contract, the inventor worker shall be entitled to fair compensation commensurate with this value. If the two parties do not agree on the payment amount, it shall be determined by a competent court decision.

Jordan has registered many patents and books that have had a significant impact on the local or even the global level:

- In 2019 the Jordanian researcher Dr. Salam, the assistant, registered a patent in the US Patent Office in the field of cancer treatment through nanotechnology particles that work on the precise treatment of cancer cells without affecting healthy cells.
- In 2018, the Jordanian innovator Omar Naji also registered and developed smart glasses to help people to determine with visual impairments in recognizing objects and shapes, distinguishing traffic light colors and

avoiding obstacles while walking on the roads, bringing the user to the stage of practicing his daily activities without the need for the help of others. Nagy's innovation includes a camera installed in the glasses, programmed to identify various surrounding objects and the color of traffic lights, to transmit information to people of determination through a headset connected to it.

➤ In addition, in 2018, Jordanian researcher Abdul Mohsen Al-Husseini, CEO of Analytic Space, developed a network for satellite communication using lasers on Cubesat satellites, which ensures permanent communication of satellites with the Earth and reduces their costs.

Obstacles Facing Jordanian Inventors, Creators & Authors. Like other countries, inventors and innovators face many obstacles, and some may have to go abroad to register their inventions. These obstacles include the following (The Ministry of Higher Education and Scientific Research, 2018):

First. The continuous routine, as the invention or patents go through many routine procedures that may affect and hinder the creator or innovator.

Second. The long time that innovation takes, as some innovations may take more than five years, knowing that the inventor pays fees collected annually before registering his invention, even if he does not accept it.

Third. Weak financial capabilities affect the inventor and affect his invention as well, as the environment is not incubating inventions, and therefore the inventor cannot spend on his invention or its development in the future, in addition to the fact that the state imposes fees on him upon registration, and it is better for the state to encourage invention and therefore It has to raise these fees, even if they are modest, there is no justification for their existence, the imposition of these fees is incompatible with the idea of encouraging scientific research in general.

Fourth. The weak spread of the culture of scientific research, its low quality, the absence of a culture of innovation, creativity and leadership, the lack of impact of research dissemination on the international arena, and the lack of return on the results of scientific research, innovation and economic patents.

Fifth. The lack of interest in the output of scientific research from the beneficiaries, the absence of partnership between the concerned authorities in this field, and the weak coordination and cooperation with these authorities in research and development in the public and private sectors.

Sixth. Weak communication with international research centers, failure to exploit partnership opportunities with supportive international institutions, and brain drain for not using them appropriately through effective networking.

To address these obstacles mentioned above, a few things must be presented:

➤ The efficient use of available financial resources and manpower, the presence of a strong desire to support innovation, creativity and excellence, an increase in the number of young people seeking excellence and those desiring creativity, the availability of qualified human resources in national universities and specialized research centers, the possibility of taking over the fund, and developing the economy and national development.

➤ Availability of research infrastructure in universities, availability of financial support for research in partnership with regional and international bodies, indexing of national journals within global databases, the generous financial support provided by the Fund compared to national universities, as well as transparent management of the Fund, within the framework of clear foundations and criteria.

➤ A supreme political will that advances the higher education and scientific research sector and moves to a knowledge-based economy, security and political stability, an environment that supports research, innovation and creativity, the possibility of activating the role of the private sector by participating in research and development activities, and a high rate of population growth, especially the youth category.

➤ The great demand for higher education, scientific research and investment in science, the availability of relatively acceptable financial support nationally and regionally, the availability of a base for regional and international research cooperation, the presence of postgraduate programs in universities that focus on the research aspect, and the diversity of researchers' specializations.

➤ The presence of qualified researchers, infrastructure, laboratories and relatively advanced equipment in universities and research centers, in addition to opening the door to investment in renewable energy, the presence of a synchrotron accelerator and a unique research nuclear reactor in the region, and other centers

of excellence, and the presence of Jordanian expatriate researchers in advanced international scientific research centers.

- Increasing financial support for inventors and innovators and overcoming financial obstacles.

4. Methods

Research methodology is a set of procedures and steps that researchers follow to explain the phenomenon or its inaccuracy (Sekaran, 2016), where the study is based on a descriptive approach and on defining characteristics of a phenomenon by describing its nature and the quality of relationships between variables, causes, trends, and other aspects that revolve around a particular problem or phenomenon and identify its reality in the countryside (Saber Abdel Moneim, 2019). This study uses an analytic inference approach that uses a set of procedures with descriptive statistical results and translates them into measures that can be generalized to the studied statistical society and related conclusions (Sekaran, 2016).

Table 1. Trademarks Granted in Jordan for Years (2008-2021)

Year	Local Orders	Foreign Orders	Number of Initial Approvals	Number of Marks Registered	Ratio of Increase or Decrease
2008	4484	4956	7500	6710	-----
2009	3992	3741	5471	6359	(1.055) %
2010	1904	4056	5715	4286	(1.48) %
2011	2296	4511	5233	5434	1.27 %
2012	2284	4450	4160	4621	(1.17) %
2013	2114	4395	5379	4759	1.03 %
2014	4554	4402	5847	5655	1.19 %
2015	2726	4750	7307	5544	(1.02) %
2016	3012	4331	6621	7254	1.31 %
2017	3079	4559	4348	5055	(1.43) %
2018	2991	4459	5318	4285	(1.18) %
2019	2656	4147	7827	5213	1.22 %
2020	2756	3398	5414	5794	1.11 %
11/2021	2914	4185	3780	5119	(1.31) %

Source: Jordanian Ministry of Industrial & Trade, <https://mit.gov.jo>, 2021

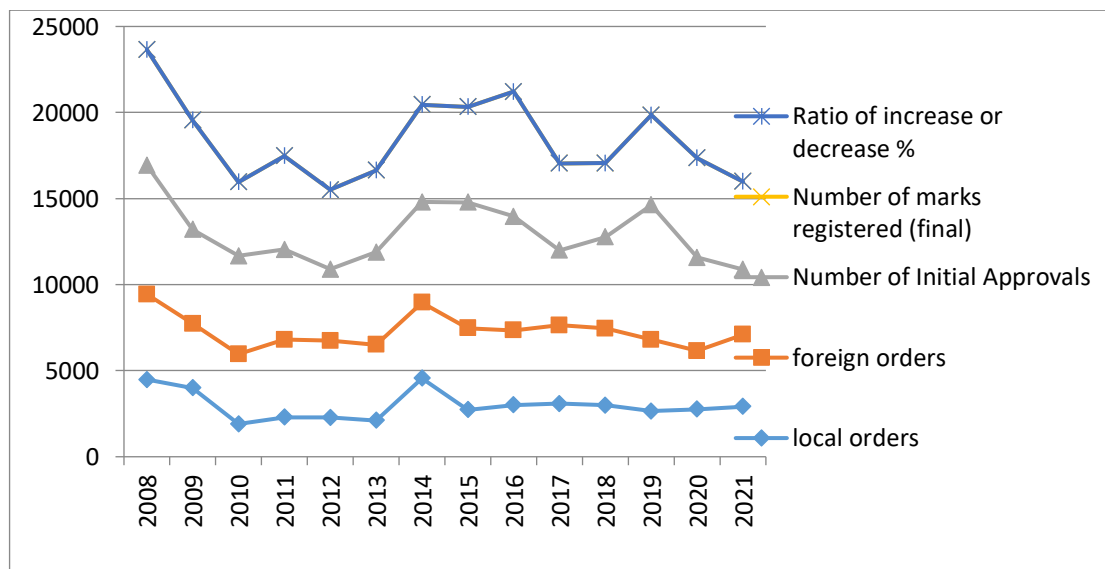


Figure 1. Prepared by the Researcher Based on Table 1

Source: Jordanian Ministry of Industrial & trade, 2021, <https://mit.gov.jo>

We note from Table 1 that the trademarks granted to non-Jordanian residents exceeded the trademarks presented to Jordanians during 2008-2021. Table 1 also shows that the annual increase rates ranged between (1%-1.5%) during the same period, where the highest increase was in the percentage of change in 2016 with a percentage of (1.31%), while it was the highest decrease in 2010 with a decrease rate of (1.48%). The rest of the results were as shown in the Table above.

Table 2. Patents Granted in Jordan for 2008-2021

Year	Domestic Patent	Foreign Patents	Total	Ratio of Increase or Decrease %
2008	10	11	21	-----
2009	11	40	51	2.43 %
2010	22	64	86	1.69 %
2011	7	36	43	(1.49) %
2012	4	70	74	1.72 %
2013	9	37	48	(1.54) %
2014	11	91	102	2.13 %
2015	15	53	68	(1.5) %
2016	6	115	121	1.78 %
2017	4	123	127	1.05 %
2018	16	151	167	1.31 %
2019	5	59	64	(2.61) %
2020	7	289	296	4.63 %
11/2021	10	152	162	(1.83)

Source: Jordanian Ministry of Industrial & Trade, <https://mit.gov.jo>, 2021

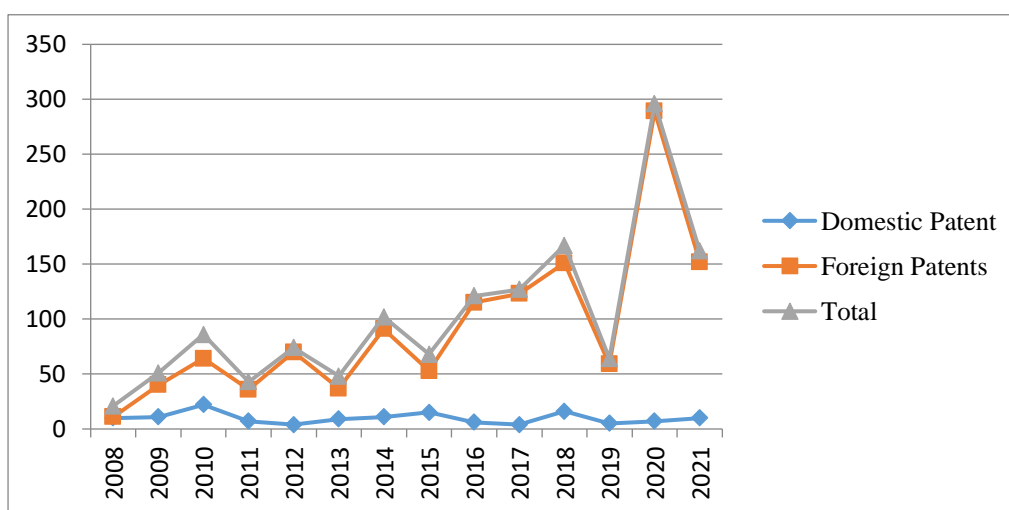


Figure 2. Prepared by the Researcher Based on Table 2

Source: Jordanian Ministry of Industrial & trade, 2021, <https://mit.gov.jo>

We note from Table 2 that foreign patents granted in Jordan exceeded those granted locally, as there were significant differences during the study period, as the results showed that the highest increase reached in the year (2020) by (4.63%), While the highest decline was in the year (2021) at a rate of (1.83%). The rest of the results were as shown in Table 2.

5. Conclusions & Recommendations

5.1 Conclusion. After reviewing the data analysis of study, it came out with some results as follows:

First. Based on the Kingdom's accession to the World Trade Organization and the TRIPS Agreement, it was necessary to amend and create laws concerned with intellectual property, including patent laws, to protect inventors and inventions from aggression, and if the worker who represents one of the parties to the production process in the state has a unique role. It is important in reaching innovations and inventions. Legislators in various countries must show a particular interest in this factor, as he is the one who provides humanity an excellent service in finding and developing new inventions on a daily and continuous basis.

Second. The rights of the invention that can be transferred to the employer are financial rights only, while the moral rights remain in the inventor's interest as they are rights related to the personality and may not be waived. The inventor's name must be mentioned in the patent regardless of the owner of the patent or who it was issued in his name.

Third. It is fair that the invention reached by the worker during his work, which is mainly related to the activity of the facility, should not be used as a weapon against the employer if it fell into the hands of one of his competitors, and accordingly the legislator decided to prove ownership of the invention to the employer or to agree in writing to confirm this right.

Fourth. The texts related to workers' inventions in the Labor Law and the Patent Law are absolute, as they do not differentiate between free inventions, which are inventions that the worker reaches by his means without benefiting from the employer's tools and expertise, and service inventions, i.e., the agreement between the employer and the worker, may include all that the latter achieves in terms of inventions, even if they are not related to the nature of the work he is doing, all that the text stipulates, that there be an agreement between the employer and the worker on this, and it is necessary to make a distinction between the case of the worker who joined specifically to do research studies and studies that lead to the realization of inventions, or if the worker uses the employer's tools and materials, and between the worker who was not commissioned for the invention and did not use the employer's tools and materials.

Fifth. We reached an important conclusion, whether in the Labor Law or the Patent Law, which is that the Jordanian legislator came with a ruling that differs from what was stated in the Saudi law and the Omani patent law because the provisions of the Jordanian law talked about the case of accidental inventions and free inventions only, meaning that the legislator did not regulate and did not He talks about the situation that is considered a general origin, which is service inventions, and he decided that the written agreement with the employer determines the rights in accidental inventions, and it authorized the agreement in contrast to the ruling on establishing the right to a free invention.

Sixth. The workers' inventions do not come in one format, so the right holder varies according to the occasion to reach them.

Seventh. The legislator aims for one of the provisions in the Labor Law to establish a balance between two parties to the work contract by protecting the weak party in it, the worker, by providing a minimum protection for the rights of the worker since it is not permissible to agree on violating the provisions of this law as they are the rules of his order and the public order. The legislator was interested in including workers' inventions in the labor law to provide the maximum possible protection for the worker as he is the weak party in the work contract by the influential employer and the strong economic position. Accordingly, the researcher believes that the Jordanian legislator was not successful with the recent amendment he made in each of the labor law And the patent law regarding workers' inventions through:

1. The recent amendments are considered a regression and a serious detraction from the rights granted to workers if inventions are discovered.
2. The amendments were absolutely focused on the interest of employers at the expense of workers. The first and last beneficiaries of recent amendments (foreign investors) invaded the world of developing countries in search of investment, new markets, and cheap labor.
3. The principle of the authority of the will in work contracts harms the worker because his will, in reality, has nothing but the apparent, i.e., only a fictitious will.
4. The labor law, which aimed to protect the weak worker in the face of the employer, no longer provides the minimum level of this protection intended by it about the rights established for workers.
5. The recent amendments do not motivate and will not encourage workers to invent because there is no appreciation for their efforts to come up with inventions.
6. These provisions may prompt many workers not to disclose the inventions they may achieve, especially accidental inventions, due to their lack of appreciation for their efforts in this field and their failure to prove to them if any compensation or incentive is reached.
7. The law stripped the worker of all rights to the employer's participation in the patent rights and of any right to compensation or reward for the worker for his invention.

Eighth. The results showed differences in the trademarks granted to international students, which necessitate attention to the applications given to resident Jordanians.

Ninth. The results showed that there are differences in patents granted to foreign applications.

5.2 Recommendations. This study came out with several recommendations, the most important are as follows:

First. The need for Jordanian legislator to reconsider legal system for workers' inventions in general, to increase the protection for workers who arrives to inventions and give them rights and privileges if any inventions reached. The technology available to state has reflection on planning and economic development, where technology contributes significantly to economic growth and considers an entry point for increasing productivity.

Second. The study recommends the need to add the phrase: (provided that the written agreement is in the interest of the worker) in the body of Article (A/20) of the Jordanian Labor Law and that the text becomes as follows: (The intellectual property rights of both the employer and the worker are determined by agreement in writing between them concerning the business of the employer if the worker uses the employer's expertise, information, tools or raw materials to reach this innovation, provided that the written agreement is in the interest of the worker).

Third. The study recommends the necessity of amending the text of Article (22/b) of the Jordanian Labor Law by deleting the phrase (unless otherwise agreed in writing) and replacing it with the words (and any agreement to the contrary is considered void) so that the text becomes as follows: (Intellectual property rights shall be For the worker if the right of ownership created by him is not related to the business of the employer and he did not use the experiences, information, tools or raw materials of the employer in arriving at this innovation, and any agreement to the contrary is considered void).

Fourth. We mentioned that as long as the right to own the patent is proven to the employer, he has absolute right to decide the way he sees managing this right, and he has the right to refrain from disclosing the invention, and therefore it is not right for the worker to apply for a patent based on this Abstaining because this is considered by the trade secrets that the worker must preserve, and the study finds that a legal text must be drawn up that gives the worker the right to apply for a patent in the name of the employer in the event he refuses to obtain it, in the event that concealing it harms the interest of the worker, because Presenting this patent may entail prompting other employers to contract with this worker based on it as he has become an inventor, provided that this is the discretionary authority of the court, as the case may be, and that the text is binding on the worker in the event that the invention is a necessity for national security or for emergency cases that are also assessed by specialized court.

Fifth. The general rules specify that if workers reach inventions after expiration date of work contract, they don't have any rights over inventions and to prevent this from happening, the study considers inventions to be made during the service if workers applied to obtain a patent within two years from end of work contract with employer.

Sixth. The legislator did not show any appreciation for the material aspect provided by the employer for the worker to reach the accidental inventions of raw materials, devices, expertise, information, and tools etc., when he decided that determining the intellectual property rights of both the employer and the worker is done by agreement in writing between them about the work. If the employer neglects the written agreement with the worker to specify these rights, then none of them is proven to the employer. Therefore, we wish the Jordanian legislator to appreciate this aspect of the employer on the one hand and in a manner that does not prejudice the worker's intellectual effort on the other hand.

Seventh. The necessity of paying attention to local patents in terms of facilitating procedures and credits and providing adequate support to increase inventors' capabilities.

Conflicts of Interest: Not applicable.

Data Availability Statement: Not applicable.

Informed Consent Statement: Not applicable.

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