

Identifying factors affecting trademark infringement in the field of electronic commerce with Delphi method

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Abstract

Trademark infringement in cyberspace is a crucial issue that has been facilitated and increased by the expansion of the Internet and artificial intelligence, leading to disputes between individuals that require a suitable performance bond. Among these, trademark infringement is one of the most important issues in electronic commerce. This research is applied with qualitative methods using library resources and expert-based questionnaires. In the qualitative section, 15 experts and 25 first-hand references were selected by snowball sampling for experts and purposeful sampling for documents. The Delphi method was used to analyze the data and to determine the validity and reliability of the information obtained from the expert-based questionnaire. Necessary checks were done, including acceptability (expert review) and confirmability (expert review). The reviews show that the current trademark rights in Iran do not include all possibilities and cannot work well in cases of trademark infringement in cyberspace. Iran's legislators need to express trademark rights, examples of trademark infringement, and exceptions. Therefore, approval of the electronic commerce law in Iran, adding basic items in the field of trademarks, monitoring the strict implementation of laws, and maintaining the security of active businesses are requirements.

Keywords: Trademark, Electronic Commerce, Intellectual Property (IP), Delphi method
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1 Introduction

Before a company can establish a business relationship with a consumer, it must create an identity for its products and services. Economic competition is based on the assumption that the consumer can identify and differentiate the offered products, and if a product is distinguishable, competition will be easy. Therefore, traders spend significant resources to gain a good reputation and identify their products [11]. Also, companies seek to increase their share in commercial markets and offer their services and goods with better quality. Trademarks act like an identity card for companies, creating better recognition, differentiation, and competitiveness of desired goods or services [4].

Today, the competition in business has led businesses to use electronics more and more. Businesses operate in each business environment from similar businesses on the web with their trademark. The trademark differentiates. This

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distinction is the result of protecting the business from copying its activities. Meanwhile, issues and problems related to trademarks threaten the business [33].

Electronic businesses operate in the web environment with their brand. Among these, trademark infringement is one of the most important issues in electronic commerce. Trademark infringement is the unauthorized commercial use of the same or a similar registered or unregistered trademark belonging to another in such a way that such use misleads the normal consumer regarding the product, its origin, or the existence of a connection and dependency between two marks. Today, due to the universal use of the Internet and electronic commerce, trademarks on the Internet have received much attention, and trademark infringement in the context of electronic commerce is more common than before [7].

Once a trademark is registered, its exclusive use is allowed only by the person who registered it. Iran Patents, Industrial Designs, and Trademarks Registration Act 2008, in Article 43, considers using another mark without permission and misleading the consumer as a condition for creating liability due to trademark infringement and does not mention the defendant's fault. The Electronic Commerce Law of Iran, 2004, is the first law in Iran in the field of crimes related to information technology and its special branches, i.e., crimes related to electronic commerce. This law criminalizes trademark infringement [50].

Due to the simultaneous availability of the Internet everywhere in the world and the use of such signs on the Internet, the rights of third parties may be challenged. If the owner of the right to the mark wants to take action against such use, he must obtain a court order. Such a ruling generally prohibits using the mark on the site in question. To deal with this global effect of court rulings, judges should take the initiative, provide solutions, and apply them in the issued rulings that limit the effect of the right to the country recognizing the right [34]. Trademarks function as official documentation for businesses and contribute to enhanced brand recognition, distinctiveness, and competitiveness of the products or services in question. These distinctive symbols implicitly ensure the product's quality, and consumers anticipate a consistent level of excellence when purchasing a product or service bearing the trademark [4].

The trademark system is designed to balance the rights of producers and consumers. This system, on the one hand, provides the rights of the producers so that the production motivation is created and developed in them, and on the other hand, by requiring some regulations, it supports the negative right of consumers not to be misled, and by managing the information in the market, the costs of consumer search [14], therefore, anything that disturbs this balance should be prohibited. In this regard, trademark infringement is one of the factors that disturb the balance above, and in all legal systems, it is faced with the guarantee of different executions. According to the US Trademark Act, Section 32 of the Lanham Act Trademark Act, trademark infringement is the commercial use without permission of a registered mark belonging to another in such a way as to cause the possibility of confusion in the product or service, its origin or its dependence on a certain origin (US Trademark Act, Section 32 of Lanham Act, Trademark Act Of 1946, AS Amended, 2006). Iran Patents, Industrial Designs, and Trademarks Registration Act 2008 also consider using another mark without permission and misleading the consumer as a condition for creating liability due to trademark infringement in Section B, Article 40. However, a review of the judicial procedure shows that in Iranian law, the presence of a valid registered or unregistered trademark and commercial use of a non-registered trademark is a condition for violation [32].

Some studies have been done in this field, and some are mentioned.

Jamshidi et al. [20] conducted research titled "Analysis and Identification of Variables Affecting the Violation of Trademarks in the Field of E-Commerce in Iran." What is obtained from the research findings shows a deep gap and void in the Electronic Commerce Law of Iran, 2004, in the field of trademarks. This void is the basis of trademark infringement and affects businesses in the field of electronic commerce.

Ahadi and Sadeghi. [1] conducted research titled "Violation of Trademarks through Domain Names and Coping Strategies with an Emphasis on Defending Citizenship Rights." Based on this, domestic laws, including Article 66 of the Electronic Commerce Law of Iran, 2004, and international judicial authorities, including arbitration, WIPO, and other laws dealing with intellectual property disputes, play an important role in realizing the rights of citizens, including consumers and users of electronic commerce.

Nezamolmolki and Moazenadegan [38] conducted a study titled "Crime of Registered Trademark Rights Infringement in Iranian Law with a Look at Trips Agreement." According to this research, trademark infringement is criminalized in Articles 40 and 61 of the Iran Patents, Industrial Designs, and Trademarks Registration Act 2008, Articles 525, 529, and 530 of the Islamic Penal Code of the Islamic Republic of Iran, Book 5 approved in 1997, as well as Articles 66 and 76 of The Electronic Commerce Law of Iran approved in 2004.

Pokrovskaya [40] researched “Liability for Trademark Infringement on E-Commerce Marketplaces.” This article examines the distribution of liability caused by patent infringement in selling goods through Marketplaces. Conclusions on the need for the gradual development of the laws of the Russian Federation in the field under study, including the regulation of electronic commerce platforms and measures to improve the responsibility of markets and sellers for the sale of counterfeit products, are drawn up.

Nawab [37] conducted research entitled “E-Commerce Platforms Provide Safety to Trademark Owners against Infringement?: A Comparative Study between India and China”. This research paper helps to study trademark infringement in electronic commerce operating systems and its responsibility in the jurisdiction of India and China.

Yashwont Kiran [49] conducted research entitled “The Infringement of Trademark in the E-Commerce Sphere-A Comparative Analysis of USA, European Union, United Kingdom & India.” This research paper deals with trademark infringements, specifically in electronic commerce. Today, artificial intelligence software assists electronic commerce websites, sometimes recommending fake goods to customers. This leads to accountability for trademark infringement. Electronic commerce websites worldwide are only one of the shopping platforms that must always be under the security control of law enforcement authorities to prevent trademark infringement.

Therefore, this research examines trademark infringement in electronic commerce in Iranian laws.

2 Research methodology

The current research is applied and qualitative. In this research, the method of collecting information is library and expert-based questionnaires. This research analyzed the information by surveying experts and using the Delphi method. It should be noted that all the factors approved by the experts were based on extraction from academic and theoretical texts.

The Delphi method is one of the qualitative research methods used to reach consensus in group decisions. In practice, the Delphi method is a series of consecutive questionnaires or Rounds with controlled feedback that tries to reach a consensus among a group of Expert Panels about a specific issue. Usually, the Delphi method includes the following basic steps. In the first stage, the research problem is defined, and based on this, the necessary characteristics for the participants in the Delphi panel are determined. Then, the candidates for participation in this panel are identified and invited. This stage ends with the determination of the Panel members. The second stage of the Delphi method is dedicated to the generation of ideas in the field of the research problem. At this stage, the Panel members present their ideas about the factors related to the research issue. By analyzing and refining these ideas, removing duplicates, and using the exact words, the researcher extracts the final list of factors related to the research problem. At this stage, the opinion of the members may be asked about the factors that have been determined in advance. In the third step, Panel members determine the importance of the factors or choose a number of the most important ones. Based on this, the number of factors is reduced to the extent that work with them can be done. This step reduces the number of factors to an acceptable level for continuing the work. In this research, the Delphi method was completed in three rounds.

To implement the fuzzy Delphi method, the following steps have been taken: The first step: After preparing the evaluation factors, a questionnaire was prepared to prepare experts’ opinions, and the experts were asked to give 1 to 5 points according to their agreement with the evaluation factors in the form of a fuzzy spectrum and, if necessary, add items to the list. Moreover, in case of disagreement with the evaluation criteria, provide explanations.

Second step: After collecting and reviewing the questionnaire data, several experts announced the factors that should be removed from the proposed list.

Third step: Another questionnaire with a complete list, including the initial list and new opinions of experts, was prepared and sent to the experts for comment so they could rate the factors again.

Fourth step: Every expert in each stage should consider a level for each of the considered criteria and dimensions, and these levels are provided to the experts in the form of linguistic variables (very low, low, medium, high, very high), whose numerical values in the form of fuzzy numbers are defined as triangular fuzzy numbers as follows:

Table 1: Fuzzy numbers equivalent to verbal expressions

Very high	High	Medium	Low	Very low
(7, 5, 10, 10)	(5, 7, 5, 10)	(2, 5, 5, 7, 5)	(0, 2, 5, 5)	(0, 0, 2, 5)

After the selection, the opinion of the experts is collected and recorded in fuzzy form by developing the appropriate

fuzzy spectrum. In the second step, experts' opinions should be collected. Various ways have been proposed to collect the opinions of experts. If the point of view of each expert is represented as a triangular fuzzy number (l, m, u) , a conventional method for summarizing the point of view of n experts is considered to be minimum l , average m , and maximum u .

$$F_{AGR} = \left(\min(l), \left\{ \frac{\sum m}{n} \right\}, \max(u) \right) \quad (2.1)$$

In some sources, geometric mean is suggested instead of simple arithmetic mean.

$$F_{AGR} = \left(\min(l), \prod m, \max(u) \right) \quad (2.2)$$

Other sources suggest that the geometric mean calculates the upper and lower bounds. We mainly suggest the fuzzy average method to aggregate expert opinions, which is calculated as follows:

$$F_{AGR} = \left(\frac{\sum l}{n}, \frac{\sum m}{n}, \frac{\sum u}{n} \right) \quad (2.3)$$

2.1 Choosing the method of aggregating the opinions of experts

The selection of the expert opinion aggregation method depends on the researcher's opinion. Using fuzzy aggregation methods instead of fuzzy averages allows the maximum dispersion of people's views to be considered. However, the problem with these methods is that the point of view of an optimist or a pessimist greatly affects the results.

If the value is smaller for the expert, he is considered a pessimistic expert. Also, if the value is greater than for an expert, the expert is considered optimistic. For more certainty, the pessimistic and optimistic experts can be ignored.

After the fuzzy aggregation of the experts' opinions, the obtained values should be de-fuzzified. In various methods with the fuzzy approach, the researcher finally seeks to convert the final fuzzy values into a definite and understandable number.

$$F_{AVG} = (L, M, U) \quad (2.4)$$

$$X_m^1 = \frac{L + M + U}{3} \quad (2.5)$$

$$X_m^2 = \frac{L + 2M + U}{4} \quad (2.6)$$

$$X_m^3 = \frac{L + 4M + U}{6} \quad (2.7)$$

$$\text{Crisp number} = Z^* \Rightarrow \max(X_{\max}^1, X_{\max}^2, X_{\max}^3) \quad (2.8)$$

There are many other methods of debuzzification. For example, this category includes center of gravity (COG), mean of maximum (MOM), and center average methods.

After choosing the appropriate method and de-fuzzifying the values, a tolerance threshold should be considered for screening the items. The threshold value is usually considered 0.7, but this value can be different from one study to another based on the researcher's perspective. If the definitive value resulting from the de-fuzzification of the aggregated view of the experts is greater than the threshold value, the target index is confirmed. The target index is removed if this value is smaller than the threshold value.

2.2 Algorithm for implementing the Delphi method for forecasting

The fuzzy Delphi method for forecasting was presented by Kaufmann and Gupta in [26]. The structure of triangular fuzzy numbers is such that it is very suitable for the Delphi method of prediction. In this method, which is used to predict the time, price, and other quantitative values, experts are asked to provide their prediction based on the lowest, highest, and most probable value. In this case, there is no need to provide a definite value.

The algorithm for implementing the fuzzy Delphi method for prediction is as follows:

First, the prediction of each expert is presented as a triangular fuzzy number:

$$A_i = (l_i, m_i, u_i) \quad (2.9)$$

Then, to identify the difference between the opinions of each expert and the average opinions, it is calculated and given to the relevant expert again:

$$A_{AVE} - A_i = \left(\frac{\sum l}{n} - l_i, \frac{\sum m}{n} - m_i, \frac{\sum u}{n} - u_i \right) \quad (2.10)$$

The opinion of the experts is collected again, and the new fuzzy average is calculated:

$$B_{AVE} = \left(\frac{\sum l}{n}, \frac{\sum m}{n}, \frac{\sum u}{n} \right) \quad (2.11)$$

Each expert's opinion difference is calculated with the average of opinions, and the Delphi cycle is repeated. This process stops when two consecutive averages, $A_{ave}, B_{ave}, C_{ave}, \dots$ are approaching each other.

Therefore, using the fuzzy Delphi method for screening can be done in one round, but several rounds must be continued for prediction to reach an agreement. The logical justification is that the researcher first performed the initial screening with the support of the existing literature, and the analysis has a confirmatory aspect. Pain is more sensitive in forecasting, and analysis has an exploratory aspect, so forecasting requires more accuracy and sensitivity.

At the end of each stage, the fuzzy average of each question has been calculated according to the following formulas.

- **Answers received from each of the experts:**

$$A^i = (a1^{(i)}, a2^{(i)}, a3^{(i)}, a4^{(i)}), \quad i = 1, 2, \dots, n \quad (2.12)$$

$$A_m = (a_{m1}, a_{m2}, a_{m3}, a_{m4}) = (1/n \sum a1^{(i)}, 1/n \sum a2^{(i)}, 1/n \sum a3^{(i)}, 1/n \sum a4^{(i)}) \quad (2.13)$$

- **Calculation of the average opinions of experts in each stage in the form of fuzzy numbers:**

Fifth step: At the end of each step, a threshold value is selected to screen inappropriate factors. The threshold value is determined by the subjective judgment of the decision maker and will directly affect the number of factors screened. There is no simple way or rule of thumb to determine the threshold value. Often, the number 3 is considered to be the threshold. This research also considered the number 3 and removed the factors with a geometric mean lower than 3.

First speech: trademark

Paragraph A of Article 30 of Iran Patents, Industrial Designs, and Trademarks Registration Act 2008 defines the trademark. The trademarks are:

1. Trademark means any visible sign that can distinguish the goods or services of natural or legal persons.
2. Collective mark means any visible sign that is introduced as a collective mark in the registration declaration and can indicate the origin or any other characteristics, such as the quality of goods or services of natural and legal persons who use this mark under the supervision of the owner of the registered collective mark. distinguish
3. Brand name means a name or title representing and identifying a natural or legal person [12].

Also, Article 1 of Patents, Industrial Designs and Trademarks Registration 1932 stipulate the definition of a trademark: "A trademark is any kind of sign, including a character, image, letter, word, seal, wrapper, etc., which is used to mark and distinguish an industrial product." It can be commercial or agricultural. So, in general, it can be said that a trademark or brand is a distinguishing sign that can be placed on a product or presented along with the provision of services or product marketing. Its use is to inform people about the industrial or commercial origin of goods or services [47]. Such signs indirectly guarantee quality because the consumer expects the desired quality from the goods and services with the trademark. In addition, these signs are valuable elements of property and intangible capital belonging to companies [34].

A trademark can take many forms. Most national laws and internationally accepted rules stipulate that any mark or combination of marks that indicates the distinction between a product and similar products can be classified as a trademark. This sign can be one or a combination of words, letters, numbers, shapes, designs, names, signatures, titles, images, colors, sounds, and even smell signs [39].

A trademark is considered to protect a product. However, signs used in the service sector have also received such support recently. "TRIPS" (Trade-Related Aspects of Intellectual Property) regulations by Article 15; It has

accepted trademark registration in both the goods and services sector. Article 1 of Patents, Industrial Designs, and Trademarks Registration 1932 stipulates that “Trademark” is any type of mark, including a character, image, figure, word, phrase, seal, wrapper, etc., which is used to mark and identify a product, industrial, commercial or Falahati is authorized [10].

Iranian legislators have not accepted trademarks in the service sector, while today, most national and international laws, including TRIPS, support the registration of trademarks in the service sector. The above article does not mention signs, sounds, smells, and colors. However, it seems that the definition of a sign is not limited, and the legislator has clarified this issue by using the term and others [51].

In some countries, there is support for “Collective Marks” and “Certification Marks”. Collective Marks are marks belonging to associations whose members identify themselves with these marks due to some outstanding features and characteristics, such as engineering and architectural accounting associations. An institution that does not use the collective mark but its members use it may own a collective mark. For this purpose, the institute sets certain quality criteria, and members can use the collective mark if they meet the conditions and criteria. It is special. Another difference is that anyone who meets the defined criteria can use the certification mark. For example, the ISO 9000 mark indicates the standard quality of goods and is known worldwide, While the users of a collective mark form a club [4].

In today’s world, brand customers do not just buy the physical product or the principle of service. However, they buy the prestige position and the benefits they receive through it, and this intangible quality is the one that can make them prefer buying a product to similar products and its market share. Increase the company. Before a company can establish a business relationship with consumers, it must create an identity for its products and services [27].

Economic competition is based on the assumption that the consumer can identify and differentiate the offered products, and if a product is not distinguishable, competition will be very difficult. Therefore, merchants spend significant resources on gaining a good reputation and identifying their products. Also, companies seek to increase their share in the commercial markets and offer their services and goods with better quality. Trademarks act like a company identity card, creating better recognition, differentiation, and competitiveness of the desired product or service [50].

In fact, despite the difference in the form and shape of trademarks, including names, symbols, brands, or logos, all trademarks follow the same goal: to introduce the origin of the production of goods or services implied by the trademark. Therefore, in addition to the fact that these signs are known as valuable assets in the hands of their owners, they also have benefits for customers Because they make it possible for the customer to identify their desired products and their producers from among the multitude of products available in the market according to the messages that are understood by the sign and their mental records of the mentioned sign and do this with ease and confidence to do more speed [48].

A trademark can express the interest and attitude of customers towards the product subject to the mark, and these marks must be registered to ensure exclusive use [31].

Also, loyalty and trust in the trademark are some of the most important components that lead to producing economic value for the trademark. Therefore, the results have shown that all the factors that increase satisfaction and trust also effectively increase the trademark’s value. They indirectly guarantee the product’s quality, and the consumer expects to receive a standard quality from the product or service with the trademark [4].

Also, these signs are valuable elements of property and intangible capital belonging to companies. Therefore, trespassing on this valuable object means depriving the trademark owner of the expected benefits he gets from the trademark. The effect of encroachment on this property appears in two dimensions [11].

1. First, on the assumption that another person uses the mentioned mark, which has incurred many costs to make it known and create credit for it, the mentioned benefits will be earned by the infringing person instead of the owner of the mark without the infringing person having to pay any expenses to control the quality of the goods or Make product and brand advertisements.
2. Second, because, in principle, the quality of goods decreases due to the lack of control by the infringing person in the production stage, the desire of people to buy such goods is reduced due to their mental history. Finally, the trust created in the trademark and its original owner will also be lost, which will also mean the loss of the trademark owner [2].

In case of imitation of the mark or unauthorized use of it, the profit resulting from the activities and expenses incurred by the mark owner will be earned by the counterfeiter or the user of the counterfeit mark. Consequently,

the mark owner will be harmed. About establishing the ownership of trademarks, establishing liability through infringement, the mark through the application of the general elements of liability on the trademark infringing act may also be due to the association of the infringing act with creating doubt in the consumer, the factors contributing to ambiguity or the consumer's error based on The production of goods by the owner of the trademark is authentic, which means the cause of loss to the owner of the trademark, which is formed in the form of deducting the credit of the trademark or the flow of benefits to the infringer [45].

The trademark system is designed to balance the rights of producers and consumers. On the one hand, this system provides the rights of the producers so that the production motivation is created and developed in them, and on the other hand, by requiring some regulations, it supports the negative right of consumers not to be misled and by managing information in the market, consumer search costs reduces. Therefore, anything that disturbs this balance should be banned. In this regard, trademark infringement is one of the factors that upset the balance above, and in all legal systems, it is faced with the guarantee of different executions. Iran Patents, Industrial Designs, and Trademarks Registration Act 2008, also in paragraph b of article 40, the use of another mark without permission and the occurrence of misleading consumption considers the manufacturer as a condition for creating liability due to trademark infringement. However, the judicial review shows that in Iranian law, the presence of a registered or unregistered valid trademark and commercial use of the trademark is not a condition for the realization of infringement [44].

Trademark registration creates limitations for this basic principle and limits it. Despite the specification of the Iran Patents, Industrial Designs, and Trademarks Registration Act 2008 as the first registration system in the field of trademarks, Iran's judicial practice, in many cases, considers unregistered trademark infringement to be realized through the registration and use of a registered trademark and is not limited to any. Mainly, it has caused a violation of the law and public interest [38].

The infringement condition is that the alleged infringer uses the protected mark, qualified as commercial. Although this condition is not described as commercial in Iran's law, analysis shows that only commercial use will lead to trademark infringement [20].

In Iranian law, it seems that the mere non-personal use of a mark in a way that endangers the producer's rights through misleading the consumer is considered commercial, and in this sense, it is closer to private rights [11].

The judicial procedure of Iran's courts also verifies the violation and invalidation of the trademark by examining the trademark rights of the owners and the manufacturer, and as will be shown below, consumer rights and competition rights, which are the parts related to public law, are generally taken into account. However, the mere commercial use of a different trademark, if it does not cause the possibility of confusion, does not lead to the realization of trademark infringement. This argument is valid even in the case of a registered trademark because failure to verify the possibility of confusion is equal to the lack of objectivity or similarity in the trademark rights between two signs [12].

The basic element of trademark infringement in both systems is the "possibility of misleading" the average consumer. Iranian law or jurisprudence has no specific criterion for determining the possibility of confusion. In this regard, only the similarity between two marks and goods or services is referred to [32].

The second speech: Trademark infringement

The traditional definition of infringement is that a person uses his trademark to introduce his goods and services without the permission of another. This definition does not include all examples and cases of trademark infringement; on this basis, some have tried to provide a definition that includes almost all examples and cases of trademark infringement according to the systems in different countries regarding the case. Based on this, in the definition of trademark infringement, they said:

Trademark infringement is any unauthorized use of an identical or similar trademark for identical or similar goods and services, which is likely to mislead and deceive consumers regarding the origin (production or supply of goods or services) or cause damage to the reputation or the privileged feature of the mark is infringed. This definition includes all types of infringements [15].

A trademark's first and main function is to differentiate between the origin of goods and services. If the use of the same or similar mark for the same goods and services causes infringement, the place of work is the source of differentiation. Infringement of a trademark occurs in this regard, both in the Patents, Industrial Designs and Trademarks Registration 1932 and in the Iran Patents, Industrial Designs, and Trademarks Registration Act 2008, the necessary legal protections for the trademark are implemented. The law protects the trademark against such infringement where the place of work is a distinction of origin. Against such infringement, there is the possibility of applying the guarantee of executions in the law. In recognizing this type of infringement, the

main goal is to protect customers concerned about the origin of production or The supply of goods and services [32].

Protection against this type of infringement was provided in the previous law in paragraph 2 of Article 9 of Patents, Industrial Designs and Trademarks Registration 1932, and in the new law with Article 32 of the Iran Patents, Industrial Designs, and Trademarks Registration Act 2008, the first type of infringement was recognized. This type of infringement is known as the first type of infringement. Another type of infringement has been identified as the second type of reputation infringement. Although the same or similar mark as a registered trademark is used in this type of infringement, this does not mislead people about the origin and origin of the goods or services. However, it harms the distinguishing feature of the reputation and validity of the registered trademark and causes less discoloring and weakening of the trademark's reputation, which is considered an infringement. The latter type of infringement aims to protect strong and well-known trademarks against losing credibility and their association with a special product in the public mind. Fortunately, in Article 32 of Iran Patents, Industrial Designs, and Trademarks Registration Act 2008, unlike the previous law, this type of infringement has been dealt with [6].

The most important claims in infringement of intellectual property rights are:

1. Trademark infringement: It is very important to use a registered trademark for a specific product in a way that misleads the consumer or buyer.
2. Infringement of industrial designs. Whenever the owner of an industrial design permits the use of his design by another person by contract, the owner must monitor the use of his industrial design and take action against those who have imitated his industrial design or who have forged to take the necessary legal action.
3. Infringement of trade secrets Keeping trade secrets is always a factor of success in business competition. According to the trade secrets law, it refers to a model and tool that startups and businesses use to outdo their competitors. Trade secrets have independent economic value, and because they are not available to the general public, all businesses try to protect them reasonably. Keeping trade secrets is much more complicated than the above.
4. Patent Infringement In Iranian law, patents are protected when registered. If a registered invention is violated, it can result in civil and criminal enforcement.
5. Copyright infringement and unauthorized reproduction and translation of artistic and literary works;
6. Unauthorized activities in audiovisual matters
7. Infringement of the rights of the creators of computer software. In these cases, the private plaintiff has the right to publish the announcement of the verdict in newspapers [21].

Trademark infringement is the commercial use without permission of the same or similar registered or unregistered trademark belonging to another in such a way that such use misleads the ordinary consumer about the product, its origin, or the existence of a connection and dependence between the two marks [40].

The elements of trademark infringement according to The Lanham Act and other laws, including The US Constitution, are the presence of a valid registered or unregistered trademark, the use of a trademark without permission, the use of a trademark based on the terms of trade contained in the Constitution of this country In such a way that it has a major impact on the interstate commercial and economic process, the occurrence of the possibility of consumer confusion regarding the product itself is its origin or the connection and dependence between two signs [24].

According to Article 40 of the Iran Patents, Industrial Designs, and Trademarks Registration Act 2008, the presence of a registered trademark, the use of the trademark without permission, and the possibility of confusion regarding the product or its origin are the conditions for infringement. However, reviewing the principles and judicial procedure shows that using the condition sign in Iranian law is commercial. Unlike American law, it is limited to non-personal use. In addition, in Iranian law, the "fault" of the defendant in the infringement lawsuit is also based on the generality and application of Article 1 of the Civil Liability Law approved in 1961. Contrary to American law, it is one of the terms of civil liability. However, it seems. Suppose the innocent use of the infringing mark leads to misleading the consumer, although the infringer may be exempted from the responsibility for compensation. In that case, there is no obstacle to issuing an order prohibiting using the mark. Also, despite the Iran Patents, Industrial Designs, and Trademarks Registration Act 2008 stipulation to protect registered trademarks, according to Iran's judicial practice and relying on the frequent Article 10 of the Paris Convention, widespread protection of unregistered trademarks is practiced. This is a clear violation of the law, and it is the consumer's right. It is suggested that the courts should avoid it. According to this,

just like American law, the existence and proof of an unregistered trademark is also one of the conditions of trademark infringement in Iran. However, unlike The Lanham Act, America, Iranian law refers to the confusion caused by the illusion of connection or dependence between the claimant and the unclaimed mark, and the latter assumption in Iranian law is subject to the provisions of false advertising contained in the Consumer Rights Protection Law 2010. This issue is considered an advantage of Iran's laws compared to the American system, considering some doctrines that consider such misdirection ineffective in the consumer's decision. Moreover, they believe that in American law, the recent misdirection should be investigated and judged under false advertising provisions, and its effect on the consumer's decision should be proven first. This approach seems to balance the rights of producers and consumers better. This is usually called the mission of intellectual property [32].

The third speech: Laws and regulations related to trademark infringement in Iran

Registration of trademarks gives the owners the exclusive right to use and exploit it. If the trademark is infringed, the trademark owner will have an enforceable guarantee to prevent trademark infringement. In the definition of trademark infringement, it is stated that infringement is the right to It means that a person uses his trademarks to introduce his goods and services without the permission of another [6].

In 1926, Iran implemented a law to officially register and safeguard commercial and industrial trademarks, marking a significant milestone. This legislation underwent revisions in 1932 to enhance its effectiveness. Subsequently, in 1950, a regulation was introduced to mandate the registration of industrial marks specifically for certain edible pharmaceuticals and cosmetics. Furthermore, the Regulations of the Law on Registration of Trademarks and Inventions, initially enacted in 1932, underwent modifications and amendments in 1959, reflecting the evolving landscape of intellectual property protection in Iran [47].

In Iranian law, the principle is on the optionality of trademark registration unless the government deems it mandatory [25] in the Islamic Penal Code of the Islamic Republic of Iran 2008 in paragraph 2 of Article 525 and Articles 529 and 530 about forging a trademark from the trademark has been criminalized. Article 525 of the Islamic Penal Code of the Islamic Republic of Iran 2008 stipulates that anyone who forges one of the following objects knowingly uses it, brings it into the country, and compensates for the damage will be sentenced to imprisonment from one year to ten years [30]. Also, in Article 529 of The Islamic Penal Code of the Islamic Republic of Iran 2008, it is stipulated: "Whoever falsifies or knowingly uses the stamp or stamp of one of the non-governmental companies established by the law, or one of the trade houses, in addition to compensation The damage caused will be punished with imprisonment from three months to two years. In the area of trademark infringement, it is stated in Article 530 of The Islamic Penal Code of the Islamic Republic of Iran 2008: "Whoever acquires the seal or stamp or mark of the offices or companies or trade houses mentioned in the previous articles without permission and in a way that harms their rights and interests. to use it or cause it to be used, in addition to compensating for the damage, he will be sentenced to two months to two years in prison [30]. Articles 66 and 76 of The Electronic Commerce Law of Iran, 2004, address trademark infringement in electronic commerce. Article 66 of the Electronic Commerce Law of Iran, 2004 stipulates: "In order to protect the rights of consumers and encourage legitimate competition in electronic exchanges, the use of trademarks in the form of domain names or any online display of trademarks that Deceiving or causing the party to suspect the authenticity of the goods and services is prohibited and the infringer will be punished as stipulated in this law. The punishment for violating Article 66 is stated in Article 76: "The infringers of Article 66 of this law will be sentenced to one year in prison and a fine of twenty million Rials to one hundred million Rials." [20, 30].

The fourth speech: Terms of trademark infringement

According to Article 31 of The Lanham Act, any person who, without the consent of the owner of the mark:

Use in commerce any reproduction, counterfeit, imitation, or imitation of a registered mark in the course of selling, offering for sale, distribution, or advertising of any goods or services in commerce based on or in connection with such goods or services such use is likely to, misguidance or mistake or deception; or reconstructs, counterfeits or counterfeits a registered mark and applies such counterfeit reconstruction, imitation or counterfeiting to labels, signs, prints, packages, folders or advertisements intended for commercial use in the sale, supply for sale, distribution or Advertisement of goods or services about that goods or services or connection with it, such use is likely to cause misdirection or error or deception, the right holder is responsible for compensation for damages. According to subsection b of this part, the right holder is entitled to receive damages only if the perpetrator of the infringement arranges such actions with the knowledge that they were done in order to mislead, mislead, or defraud [3].

Therefore, proving knowledge of such a problem is one of the plaintiff's duties in such an assumption. Paragraph B of Article 40 of Iran Patents, Industrial Designs, and Trademarks Registration Act 2008 also considers the

unauthorized use of another mark and the occurrence of consumer confusion as a condition for creating liability due to trademark infringement.

Based on this, the petitioner can prove the occurrence of infringement if the following conditions are met:

1. Existence of valid mark

According to the Lanham Law, the first condition is a valid mark; a mark is either registered or, despite not being registered, is recognized as having continuous use [51].

2. Registered trademark

The second condition based on Article 33 of The Lanham Act, registration of a legal hypothetical trademark based on the validity of the trademark and the registrant's ownership of it, as well as the right to exclusive use of the said trademark for that person, on the other hand, the defendant can prove the validity of the petitioner's trademark by proving some cases. distort and thereby end the infringement suit in his favor. For example, the petitioner's registered mark may have become a common name, or the mark's descriptiveness has been proven and declared unsupportable [46].

Iran Patents, Industrial Designs, and Trademarks Registration Act 2008 and its executive regulations in this field do not include any special regulation. However, according to Article 31 of the law mentioned above, which considers trademark rights exclusive to the registrant, it seems similar to American law in this field. For the registrant, the statistics based on the ownership and belonging of the exclusive rights are formed, and the petitioner has no duty to prove his authenticity in these cases. There is no such restriction in Iran's legal system [30].

Therefore, the defendant of the infringement lawsuit can invoke the descriptive defense of the petitioner's registered mark in any situation and time and end the lawsuit in his favor by proving it. However, it seems that, on the other hand, the petitioner also has the right to neutralize the defendant's defense by proving the distinctiveness of the mark. Registration Act 2008 seems justified. Moreover, the trademark system does not insist on inherent distinctiveness. When a mark has distinctive power in the eyes of the consumer, it will be supported by this system [12].

3. Unregistered trademark

In Iranian law, trademark protection based on the Iran Patents, Industrial Designs, and Trademarks Registration Act 2008 is subject to its registration by a competent authority. Unlike American law, there is no legal text to protect unregistered trademarks, contrary to American law. According to most other legal systems, the right-granting system has been formed. The same meaning has been emphasized in Iran Patents, Industrial Designs, and Trademarks Registration Act 2008, the first trademark registration based on theory. However, by referring to the concepts of prior use of acquired rights and unfair competition contained in The Paris Convention, the courts implicitly violate the legal principle of protection based on the first registration, provide extensive protection to unregistered trademarks, and even limit them. They do not know about a specific geographical area. They have gone as far as to invalidate the registered trademark, citing the previously unregistered trademark's acquired rights. Meanwhile, in the American legal system, despite the benefit of the "first use" theory in identifying the owner of the priority right to use a trademark, proving prior use will not invalidate the registered trademark. In this scenario, if the defendant in an infringement lawsuit can demonstrate prior usage of the mark against the plaintiff, they not only have the potential to be acquitted in the lawsuit but also retain the right to continue using the mark within the specific geographical area where it has been consistently utilized. This is despite the provision set forth by the legislator in 1938, which allows for applying the "first registration" theory to determine the priority of mark usage in Iranian law. The question arises about the rationale behind invalidating a registered mark based on the example of another continuous usage during the judicial process. The choice of the first registration system is made with the aim of ease of granting and comments on trademarks and is somehow related to the general rule governing the trademark system [16].

The existing practice in Iran is not only contrary to the principle of "first registration" of the 1938 law, but it also causes chaos in granting exclusive rights to trademark owners. Because trademark owners who spend time and money to register a trademark and plan their presence in the market on the same basis do not have security in mind and their trademark may be revoked by competitors at any moment. This is despite the trademark being unobjectionable after a certain period in America, creating confidence regarding the exact date of rights creation for the trademark owner, i.e., the date after which trademark infringement cannot be claimed based on any reason. It is mentioned that it was requested that it be canceled. In this case, the consumer's rights will also be in jeopardy because, without a doubt, the cancellation of a registered trademark, which for a long time, in the consumer's mind, represents a producer and a special quality, opens the way for the abuse of this consumer's mentality; That is, competitors with continuous

usage lessons, after the cancellation of the registered mark, unfairly own all the reputation and commercial rights of the owners of the canceled mark. Obviously, in this situation, the abuse of the former mentality of the consumer will not be out of mind [32].

The fifth speech: Trademark infringement criteria

Trademarks are protected in two ways: registered trademarks, which are protected under the laws of the country of registration, and unregistered trademarks, which are protected by the general rules of unfair competition law. Both types of trademarks can be protected under the two characteristics of territoriality and exclusivity. Territoriality refers to protection within the country's territory where the mark is registered or used. Exclusiveness also means that trademark owners are protected against other signs similar to their trademark that confuse customers. Any sign or combination of signs that can distinguish goods or services from each other [10].

It is considered a trademark. Such signs, especially letters, numbers, graphic elements, and a combination of colors and any combination of these signs, have the necessary conditions to be registered as current signs. To determine the similarity between two marks, researchers rely on the three main elements of the mark, i.e., the sound of the mark, meaning, and appearance. The degree of similarity that is necessary to create ambiguity in the customer depends on the differences between the goods and services provided by the parties; therefore, the greater the degree of difference between the goods subject to the mark, the less complicated the process of verifying the similarity between the marks will be. The reverse is also true [51].

In order to determine the possibility of creating ambiguity by trademarks, they must be examined as a whole, and examining their components without considering other elements will result in an error in evaluation. The commercial image of a mark occurs in the whole of the mark, not in individual elements, that is, in a separate state from the overall image of the mark. For this reason, these elements should be checked in the entirety of each sign to verify the similarity between the signs. Scientifically, an expert can examine this process by assuming a violation claim. Of course, whether a part of the trademark is "dominant" or, in other words, likely to have a greater effect on the customer should also be considered. Therefore, where a mark shares a weak component, such as a descriptive or generic word, the likelihood that a customer will misunderstand this weak component as an origin indicator is very low. Therefore, the similarity between signs is not examined abstractly; Rather, this similarity should be verified from the perspective of a normal customer. For example, suppose a company uses the Panda trademark for its computers, and another uses it for furniture. In that case, customers will not be confused that these two products are from the same company. However, suppose the second company uses the panda mark or a similar mark for laptops or other tools related to computers or the Internet. In that case, it creates confusion for customers that the products belong to the first company. Therefore, the characteristic of territoriality and exclusivity does not allow multiple registrations of the same trademark in different countries and for different goods (in cases where there is a possibility of ambiguity) [12].

The performance of the components above in cyberspace is more complicated because cyberspace does not have a material location, and therefore, the territorial component is ineffective in that space. However, the exclusivity component of the mark protects its owners regarding certain goods and services provided in cyberspace. However, there is no international consensus on protecting trademarks in cyberspace. To explain and expand our understanding of the subject, we will look at a series of cases from the laws of other countries. Moreover, all the relevant factors that are considered in determining the governing law include the law of the country that, according to the reasons mentioned above, in "Principles up to and including," the violation has a commercial effect, the law of the country where the basic act occurred, or its basic or important effects, the law of the country with the closest Communication and law are chosen by the parties. These communication factors are examined below [6].

1. Commercial effect rule

Commercial effect rule means that the law of a country governs acts that are not located in the territory of that country but have directly affected the business of that country. What is important in this rule is having a commercial effect in the desired country. For example, in the rule of law, it is not the country where the act of secondary violation occurred. Still, under 2, under many jurisdictions, the secondary violation is the rule of law that governs the primary violation, even though the secondary violation did not occur in that country [12].

In the above principles, regarding the rights that are not registered, whether because they are not registered or because registration does not determine their rights, the law of the country whose business is affected due to infringement is the governing law. In this regard, the question is whether it is reasonable to make the infringement of intangible property rights subject to the commercial effect rule and, consequently, rule the

law of the country whose trade is affected. In contrast, intangible property rights are under the rule of the law of the country of protection. Is it right to implement the Commercial effect rule? In contrast, this rule provides a different solution from the law of the country of protection because this rule enforces the law of the country whose trade is affected, regardless of where the action that caused those effects occurred. is taking in, For example, the use of infringing and conflicting trademarks on the Internet. Therefore, courts are now starting to apply the commercial effect doctrine, which the World Intellectual Property Organization originally proposed for online trademark lawsuits. The current WIPO Committee on Trademark Rights, Industrial Designs, and Geographical Indications (SCT) has developed Internet regulations, which were accepted as a non-binding document by the General Assembly of WIPO and the Paris Union in 2013. This recommendation letter has two parts: The first is related to the number of possible conflicts and interference issues in the online environment. The second part also suggests a flexible approach to media conflicts that occur despite the first part of the joint recommendation [9].

Under the first part, the use of the mark on the Internet, whether for the acquisition of rights or the determination of infringement in any country, is considered only if the use of the mark has had a commercial effect in that country. This recommendation defines a violation as an event that occurs only in countries with commercial effects. This means the violation has not been realized there if it has not left a commercial effect in a country. However, the mere access to the right in the country is not enough to claim the violation and realization of commercial effect under the laws of that country. However, the courts provide criteria to prove the existence of a sufficient connection with the country of the seat of the court. Although the Commercial effect rule can help determine the law governing the violation, this rule has not provided a criterion for determining the Commercial effect. Therefore, it becomes possible for the country of the seat of the court to establish the minimum connection of the violation with its own country, assume the realization of commercial effect, and make its law governing the violation. In addition, the question remains whether the damages subject to the court ruling are limited to those occurring in the country whose trade is affected or whether the court can award extraterritorial damages. Qadr will surely issue a verdict for the damages in the mentioned land. However, the commercial effect rule does not prevent the court from paying attention to damages in other countries. However, it should be said that if the damages occur in several countries at the same time, the principles of Eli suggest the law of the country with a close connection, not the law of the country where the commercial effect is realized. This approach is considered in the principles of CLIP under the de minimis rule, and the basis of the mentioned rule can also be considered as the Commercial effect approach, which will be discussed in the following [39].

2. **De minimis rule (The rule of the country where the main act or the main works are realized)**

The de minimis rule is only found in the CLIP principles and the joint proposal of Korea and Japan. Articles 3:602 of the CLIP Principles and Article 305 of the joint proposal of Korea and Japan have addressed this rule. The CLIP group initially proposed this rule, which was later modified by the joint proposal of Korea and Japan. According to this rule, infringement is realized in a country where the main act or the main effects of infringement are located in that country (Paragraph 1, Article 3:602). The court may exceptionally derogate from that general rule when reasonable under the circumstances of the case (Paragraph 2, Article 3: 602) [8].

Now the question is whether the issue of determining the law governing violations in cyberspace can be solved with the help of the de minimis rule or not Because the commercial effect rule has not limited the number of applicable laws in which national courts easily identify the minimum connection with the headquarters court and apply the law of that place. In fact, according to the commercial effect rule, any country can easily determine the effect on its trade and the relationship of the violation with its territory, even in cases where this relationship is weak, and there is no limit in this regard [10].

We have to say about the de minimis rule: First, the rule allows the violation to be recognized not only in the country that left significant traces but also in the country where the important act occurred. As a result, the mere existence of the verb or effect is not enough; the compilers of the proposal considered the important and fundamental verb or effect [1].

In cases where the Commercial effect rule is established, even with the least correlation, the objection to this rule does not apply. Hence, if an individual uploads a trademark in country "A" from a website that is exclusively accessible in country "B" (where there are no direct effects in country "A"), the infringement still transpires in country "A." This is because the crucial act of uploading occurred there, allowing the law to apply in that jurisdiction. Consequently, the court can set the de minimis rule aside, and the rule as mentioned above can be enforced. Consequently, the de minimis rule is only applicable to lawsuits where the online use of the mark can be subjected to the application of multiple rules. The objective of the CLIP proposal is to prevent the occurrence of infringement in countries with minimal actions or effects. The

purpose is to reduce the number of applicable rules concerning infringement [16].

3. The closest connection principle

In the international system, the rule of law of the country with the closest connection is accepted in the Rome Convention in two articles (3) and (4). However, in Article 321 of the proposed principles of Eli and Article 3:602, "principles of CLIP" and the principles proposed by other legal institutions, the last rule about simultaneous infringements has been accepted, which leaves damages and effects in several countries at the same time; Because in this type of infringement, the infringer can infringe the trademark in different countries with one click in cyberspace. In these cases, the laws of different countries can be related to the subject in that the infringement has a commercial effect, or the occurrence of the basic action or the basic effects in all of them can be attributed. Therefore, in these cases, slightly different rules of the country or closely related countries have been suggested [17].

Applying a single law to claims involving several countries, although hardly acceptable, is not unknown. Because, in some cases, there is a need to identify a single law in specific issues that international trade requires. As it was said, the territorial approach is accepted in Article 301 of Eli's principles. Regarding simultaneous infringements, the above principles in Article 321 provide an alternative to the general rule stipulated in Article (1) of Article 301 of those principles, i.e., the territorial approach. Under paragraph (1) of this article, the court can apply the law of the country or countries closely related to the lawsuit [16].

The sixth speech: Trademark infringement

The foundation of trademark rights is to create a balance between the interests of competitors in this field. One of the main issues of trademark protection is the protection of trademark ownership. Generally, when you enter the keywords into the search section of the search engine, the advertisement list and the advertisement clause appear prominently at the top of the web page. If you enter a famous trademark that an advertiser purchases, it will cause its ads to appear. In order to overcome this type of trademark abuse, i.e., selling the use of a famous trademark as a keyword or advertising phrase, we must first take a look at the actions that cause trademark infringement, and by matching it with the existing situation, we can find a legal solution to it [22].

Infringement: The most basic function of trademark infringement is the use of a trademark about the goods or services provided in a way that misleads the consumer, so the mere use of an advertising phrase is not considered trademark infringement, and where the keyword is also It should not be thought that it is a trademark infringement. Of course, it should be noted that it should be judged depending on each case [29].

False advertising: To have this cause against its user, the claim must be based on the appearance of contrary characteristics and quality of goods and services or the geographical origin of the work. The primary argument to support this claim is that the owner of the protected trademark created such use. However, it is ineffective content that shows the goods and services and does not harm the validity of the goods and services. As something that can be claimed, it does not seem easy [13]. Therefore, the Global Nature of the Internet and the characteristic of industrial property rights (especially trademark rights) is its territoriality. Due to the simultaneous accessibility of the Internet everywhere in the world, it is possible to use such signs on the Internet. It may harm the rights of fixed persons across borders. However, any use of the sign on the Internet should not be prohibited due to a conflicting right in a The prohibition of using the trademark should be limited to the assumption that the use of the Internet in the country that recognizes the trademark has a commercial effect. Its use should not be prohibited in all countries if the owner of the right to the trademark wants to. If he tries to oppose such use, he must obtain a court ruling; if such a ruling prohibits the use of the mark by the site in general, it has extended the right of the owner of the mark beyond the borders and given it a global effect. To deal with the global effect of court rulings, judges should take the initiative, find solutions, and apply them in the issued rulings that limit the effect of the right to the country recognizing the right [23].

The seventh speech: Electronic commerce

Electronic commerce is the process of buying, selling, transferring, or exchanging products, services, or information through computer networks, including the Internet. The Organization for Economic Cooperation and Development defines electronic commerce as follows: Electronic commerce is an electronic exchange that includes the purchase or sale of goods and services between companies, individuals, governments, and other public and private sectors and is conducted through computer networks. According to one of the researchers, electronic commerce is processing technology and operations that take place automatically in networks and using information during commercial exchanges [42].

During the last decades, business has made many advances. So, many exchanges are no longer face-to-face but mostly done by phone, mail, and credit card use. New forms of money and payment methods today, such

as electronic checks and smart credit cards, have led to major changes in the purchasing process and made it possible for companies to enter the field of money production, which until now was only available to governments. Commerce is one of the dimensions of electronic business [5].

Today, for most companies, electronic commerce is more than buying and selling products online; it is changing the form of competition, the speed of actions, the flow of product interactions, and payment by customers to companies and from companies to suppliers. Electronic commerce is at the forefront of developments that change the way of conducting business activities and is called the industrial revolution of the 21st century, which has rapidly progressed and expanded with the advent of the Internet [43].

Various definitions have been provided for electronic commerce, most of which are based on past experiences in the use of electronic commerce. The European Commission defines electronic commerce based on the electronic processing and transmission of data, including audio and video text [28]. Electronic commerce includes various activities such as electronic exchange of goods and services, instant delivery of digital content, electronic transfer, electronic stock exchange funds, electronic bill of lading, joint design and engineering business plans, sourcing, direct marketing government purchases, and after-sales services [18].

Information technology uses computer and telecommunication tools to collect, organize, store, and disseminate information, including audio, image, text, or numbers. As one of the latest modern human achievements, this technology is undergoing profound changes and rapidly affecting the life patterns of research, education, management, transportation, health security, and, most importantly, business (National Science and Technology Council) (NSTC) (1999). At this point that we live in, all phenomena are called "electronic." Because it has brought many "e-Everything" phenomena. Among them are "Electronic Learning (e-learning)," "Electronic Banking (e-banking)," "Electronic Government (e-government)," "Electronic Citizenship (e-citizenship)," "Electronic Customer Relationships Management (CRM)," "Electronic Logistics (e-Logistics)" and finally "Electronic Life (e-Life)" and in general "Electronic Life" [19].

Electronic commerce, both because of its newness and very diverse applications and fields of activity, has different definitions from various authorities, some of which are mentioned [35].

1. Electronic commerce means exchanging products and services for money and using the capabilities of the Internet.
2. Electronic commerce is equivalent to buying and selling products, services, and information through network infrastructures.
3. Electronic commerce is a business type based on the electronic processing and transmission of data, including text, sound, and image. This business includes various activities such as electronic exchange of goods and services, instant delivery of digital content, electronic funds transfer, electronic stock exchange, electronic bills of lading, business plans, joint design and engineering, direct marketing, and after-sales services.
4. Electronic commerce is a general name for a range of software and systems that provide services such as searching for exchange management information, checking credit status, granting payment credit online, and reporting and managing accounts online. These systems provide the basic infrastructure of Internet-based activities.

In most cases, electronic commerce is interpreted as the simple buying and selling of goods or services through the Internet, which takes place online. These exchanges can include wholesale or retail sales of physical and non-physical goods (such as cars with computer software), providing various services to customers (such as legal advice), or other commercial matters (such as exchanging goods for goods, launching tenders and plans) [41].

Electronic commerce is one of the most important phenomena derived from information and communication technology, which has created a tremendous change in the volume and method of trade and business. The goal of electronic commerce is a combination of business techniques and tricks. Cooperation is more competitive and efficient for different companies, so over the past several years, it has led to the ability of companies in fields such as improving business methods and progressing in the field of communication with related companies, as well as expanding the scope of commercial business even on a large and global scale [7].

The eighth speech: The challenges of using a trademark in electronic commerce

The use of trademarks in electronic commerce has caused a challenge between the two principles of "Territoriality of Trade" and the "Global Nature of the Internet." Dealing with all forms of using a trademark under the pretext of a conflicting right in a particular country will lead to the preference for territoriality of trade over the global nature of the internet. Therefore, the prohibition of using the mark should be limited to a specific territory where the mark is recognized. It is difficult to recognize such a place due to the slowness of the Internet. The

lack of physical boundaries on the Internet makes this principle impossible to apply. The current state of the electronic network may leave traces in several jurisdictions [43].

It can be said that this act has happened in all the jurisdictions where it is accessible on the Internet. The fact that actions in virtual space are different from physical space is the case in all countries. In Violation of Trademarks in Virtual Space, international documents such as the Paris Convention for the Protection of Industrial Property adopted in 1883, the Madrid Agreement Concerning the International Registration of Marks concluded in 1891, and the Protocol relating to that Agreement concluded in 1989, and The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) adopted in 1994 have not provided a solution [16].

Information and communication technology developments in the last decade have significantly changed lives and provided new opportunities for consumers and businesses. Electronic commerce has become an integral part of people's daily lives. This network has provided the capacity to provide food, clothing, travel, entertainment, higher education, personal services, and other human needs. Electronic commerce is expanding rapidly all over the world. In today's digital world, the growth of electronic commerce worldwide has greatly changed our shopping habits and the entire retail and logistics industry [19]. Electronic commerce transactions through selling products and services on the Internet have increased greatly in recent years. The ever-increasing growth of technology, the increasing communication of nations, and the convergence of cultures and civilizations have made intangible property of special importance. With the expansion of business space in information technology, the topic of healthy competition in the market is raised [42].

This ensures the interests of consumers and society. One of the legislators' tools in creating healthy market competition is intangible property rights. This new legal concept determines how to protect and use human intellectual creations and includes the two pillars of industrial and artistic literary property [46].

Intangible property is defined in its general sense as protecting the creator (author) and his work by preventing the preparation of illegal copies of his works and trade. The provision of intangible property rights is an appropriate tool to protect the rights of companies for the innovations they have created. It is a barrier to copying and imitating others. If new technologies are valuable, they may be copied and imitated [36].

This reduces the original inventor's potential profit; the fraudster no longer pays for research and development. Intangible property rights temporarily give monopoly power to the innovator and provide the subsequent monopoly profit. One of the important branches of industrial property is trademarks, which Pirisi's rule has supported. The Internet is one of the areas where trademarks are used. Along with many commercial benefits, the Internet has also brought legal problems [43].

One of these problems is trademark infringement in the internet environment. What makes trademark infringement in the digital environment more difficult than infringement in the physical environment is recognizing the infringement of the right and determining the infringer and the competent court to handle the lawsuit in this regard [42].

Internet intangible property infringement is not limited to any specific country due to the worldwide reach of the Internet. However, it transcends geographical boundaries and allows wrongdoers to attract customers to their websites by adopting a different brand name as their primary identifier. This illicit practice involves the unauthorized use and distribution of copyrighted material, as Jamshidi et al. [20] highlighted.

Despite these problems, trademarks act as birth certificates for companies, leading to better recognition, differentiation, and competitiveness of goods or services. These marks are considered an indirect guarantee for the quality of the goods, and the consumer expects to receive a standard quality from the goods or services with the trademark.

Every year, reputable global institutions measure the value of the brand name and trademark of various international brands. Because, in the end, the success and sustainability of organizations depends on their customers. For this reason, the characteristic value of the brand name is much higher than the value of physical assets, which shows its importance [19].

Supporting intangible property in the cultural field of Iran and the world, in general, is one of the most important issues that the owners of opinions and ideas, publishers, and officials in the wide and general spectrum of creators of all kinds of scientific, cultural, artistic works, etc. address this important issue that has created a big challenge in global exchanges, it must be organized in Iran with a scientific approach. Intangible property rights in cyberspace in the fields of mass media such as the Internet, radio and television, computer software, satellite networks, etc., whose influential role in the social transformations of dynamic societies and their sustainable economic-social growth and development is undeniable [43].

One of the important areas of intangible property is that, historically, there has been a need to enact laws to defend intangible property rights in cyberspace. In other words, cyberspace and the Internet. Cyberspace, which has shown its importance in promoting and scientific development of human society since its inception, also provided the possibility of widespread abuse of the creators' works in the 16th and 17th centuries. With the rise of the religious reform movement and the ruling ideas in the Renaissance era, these movements relied on rights and individual freedoms. The stubborn protests of writers and artists led the governments to recognize the rights of creators in material and spiritual aspects and include them in their laws [18].

These rights, after being established within the borders through trade between countries and the emphasis on the owners of scientific, literary, artistic works, etc., to maintain their rights in other countries, first in mutual transactions between countries and then in multilateral and global agreements. They have, moreover, evolved [43].

3 Conclusion

The Electronic Commerce Law of Iran, 2004, can be considered a progressive law in its time of approval despite the need for a comprehensive understanding of the challenges and dimensions of electronic commerce and the laws of other progressive countries in this field. However, it is unfortunate that the law has not kept up with the advancements and developments in various aspects of electronic commerce and the growing relationships over time. This is evident in the limitations imposed by Article 167 of the Constitution and Article 3 of the Iranian Civil Procedure Law, which hinder judges from considering customary procedures and international trade issues. With the continuous progress in this field, there is a pressing need for the law to be re-evaluated and reformed. To ensure the protection of rights and the smooth filing of lawsuits, it is crucial to have a proper understanding of the laws and responsibilities involved. Ignorance of these rights can lead to delays in legal proceedings and harm the rights of individuals. Therefore, it is essential to have a comprehensive understanding of the laws and responsibilities to safeguard these rights effectively.

Furthermore, sound scientific decision-making requires establishing an active and dynamic legislative body that addresses electronic crimes, intellectual property rights violations, privacy protection violations, data protection violations, and consumer rights violations through specialized criminal laws. Specifically, for crimes related to data protection and consumer rights violations, it is necessary to develop new regulations specifically tailored to electronic financial transactions rather than relying solely on traditional and general laws. The existing laws regarding intellectual property rights violations should be updated to include relevant examples and ensure adequate protection.

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