

# Digitization of International Documents and Treaties: Opportunities and Threats

**Liya javidan**

Master's degree student in International Law,  
 Azad University, Electronics Department  
 Liyajavidan1986@gmail.com

## Abstract

The emergence and spread of the "Internet" phenomenon and the increasing growth of electronic commerce have made the transformation of traditional structures related to administrative and commercial affairs inevitable. In this regard, some issues such as keeping pace with the new necessities of the business world (speed, cheapness and similarity of electronic documents with data) have strengthened the idea of digitizing documents and international treaties. In this article, we will examine the dimensions of opportunities and threats of the digitization of documents and international treaties, emphasizing the role of current notaries and the principles and rules of document registration. Analyzing the articles of the Electronic Commerce Law, the Document and Real Estate Registration Law, the Notary Public Law, the Regulations of Electronic Service Offices, and the Model Notary Public Law will be the key to solving many issues and answering questions raised in the field of digitization of international documents and treaties, so that the opportunities and threats ahead in the system of electronicization of international documents and treaties can be identified.

**Keywords:** International documents and treaties, digitization of documents, notary offices, electronic commerce law.

## Introduction

The necessity of utilizing new communication and information technology for the digitization of international documents and treaties is so obvious that there is no justification for failing to anticipate it in the country's registration system. It must be accepted that technology has advantages that cannot be achieved with the

traditional, paper-based registration system. For example, proving the authenticity and accuracy of electronic documents is only possible by relying on similar technology, and traditional registration is not effective in this area. Today, precise, scientific, up-to-date and efficient technologies have been introduced for producing, storing, processing, recording and registering documents in cyberspace, which cannot be denied or given less probative value; because there is no evidence that paper documents are superior to their electronic counterparts (Ahmadi and Farahmand, 1400).

Another fact that must be accepted is that the physical presence of a person applying for the issuance of a document, a certificate of documents, or in general any action that falls within the jurisdiction of registration offices or notaries is unimaginable in front of a computer or electronic communication system, and face-to-face or the notary's confirmation that the parties to the transaction have agreed to register the document with full consent cannot be imagined in cyberspace. There are still some actions that machines are unable to perform. For example, it is difficult to imagine the content of Articles 63 to 67 of the Registration Law regarding the digitization of international documents and treaties, and in this case it must be acknowledged that the digitization of international documents and treaties is not possible (Bahri, 2010).

In general, "physical presence" has effects, the absence of which will lead to an increase in fraud, crimes related to documents such as forgery and misuse. The problem that has forced proponents of the digitalization of documents and international treaties to think of solutions and sometimes limit its scope is one of the effects of physical presence with the notary, his knowledge of his mood and the conditions and obstacles that, with or without them, cannot register the document (Rezaei, 2014). This is why it will be very difficult to prove the user's "reluctance" in electronic relationships. While threats, coercion, or reluctance will in any case invalidate the document. These obstacles can only be overcome

with the experience, confrontation, and accuracy of the notary, and by removing this constraint in non-face-to-face relationships, it is not clear what mechanism can be responsible (Zarkalam and Hashemi, 2010).

Since final confirmation of the document by selecting the "I accept" checkbox is possible by someone other than the original by simply clicking on it, this implies that the digitization of international documents and treaties is subject to error, mistake, identity theft, and computer forgery (Alsan, 2012).

Digitization of international documents and treaties is the use of new communication methods to facilitate the recording of documents and evidence. This technology can in principle be used to record all documents. However, specific legislation may not allow the digitization of international documents and treaties in certain cases in order to protect consumers or other factors.

### **The concept of digitization of international documents and treaties**

The digitization of international documents and treaties is a relatively new concept. Given this and the lack of efforts to establish digital offices of international documents and treaties in our country, Iran, to find the meaning of this phrase, one must refer to the laws and practices of leading countries in this field. Of course, "electronic certificate issuance service offices" are foreseen in Articles 31 and 32 of the Iranian Electronic Commerce Law, and their criteria can also be used for offices for digitizing documents and international treaties. According to Article 31, electronic certificate issuance service offices are units that are established to provide electronic signature issuance services in the country (Qasemi and Barari 2019). These services include the production, issuance, storage, transmission, verification, revocation, and updating of electronic certificates of authenticity (signatures).

### **Terms and Definitions in the Digitization of International Documents and Treaties**

In Iran, there is no specific law or procedure that defines terms regarding the digitization of international documents and treaties. The similarity of the nature and effects of the opportunities and threats of the traditional method with the digitization of international documents and treaties does not prevent the terms in the new method of registering documents and the conditions for assigning the title "official" to them from remaining unknown. Ambiguity in this case is problematic in several ways, especially since it opens up the possibility of abuse and contradictory interpretations. To achieve this goal, there is no other option but to pay attention to foreign regulations that specifically address this issue.

In Chapter 14 of the Model Notary Law, the term "electronic" in Section 14-1 refers to "technology with electronic, digital, magnetic, wireless, visual, electromagnetic or similar capabilities." The latter part of the section, by mentioning similar matters, actually takes into account future developments and refrains from stipulating exclusivity in this area. In order to emphasize the dependence of current notary offices and electronic notary offices, paragraph 2-14 defines it as a notary office that is capable of digitizing registered international documents and treaties (Qasemi Hamed, 2009).

According to the aforementioned law, electronic evidence in the general sense includes information that is created, produced, sent, communicated, received or stored by electronic means. The same definition, with some expansion in the concept, is mentioned in paragraph a of Article 2 of the Iranian Electronic Commerce Law for "data message".<sup>1</sup> The aforementioned definitions imply in another way the validity of documents for which electronic means have been used.

The electronic registry<sup>2</sup> is defined in Section 4-14 of the Model Notary Law. Given that, in accordance with Section 1-7 of the aforementioned law and Article 19 of the Notary Law and the Association of Notaries and Clerks,

approved on 25/4/1354, notary offices must have specific offices to maintain records of the documents they register. The provision of these registers is also essential for the digitization of international documents and treaties. Taking this necessity into account, the Model Law has defined the electronic register of registration records as an electronic device with a systematic historical record in which registration acts are entered by the notary. In order to prevent any damage to these books, such as paper books, the Model Law has specified the following conditions for them in six parts of paragraphs 4-14 (Qasemi and Fallah, 2014).

1- Access to the contents of the register and the notary's entry of any information therein is only possible by providing some biometric information, provided that this data matches what is in the register's memory.

2- The register must be designed in such a way that it is impossible for the notary or any other person to add or subtract from its contents after registration.

3- It must be possible to enter, view, print or electronically copy the contents of the register by a person who has the password designed by the notary or to whom the notary has otherwise granted access.

4- Every notebook must have a backup copy so that it can be referred to in case the original data is lost or damaged.

5- It should be possible to take a photo of a person's handwritten signature or fingerprint or other biometric identifier and store it in its original form (Waded and Servin, 2019).

6- The electronic record book must be such that a paper or electronic copy of all or part of the archived data, signatures and biometric marks can be produced, if necessary.

1. According to the aforementioned paragraph, "Data Message" is any symbol of an event, information or concept that is produced, transmitted, received, stored or processed by electronic, optical or new information technologies. The problem with the Electronic Commerce Act is that instead of providing a definition of more widely used and practical concepts such as Electronic Evidence or Electronic Record, it has provided a definition for a technical term.

## 2. Electronic Journal of Notarial Act

Paragraph (2) illustrates one of the advantages of an electronic document compared to its paper counterpart, because adding to and subtracting from the content of an official paper document, after its registration process is complete, is possible both by the notary and by other persons who have access to it, and this risk can only be minimized by legal prohibition and enforcement guarantees. In addition to not being deprived of the latter advantage (due to the rule of principles and rules governing official documents), the electronic official document has the unique characteristic that it can be designed in such a way that, in principle and under normal conditions, it cannot be forged or manipulated (Howard, 2018).

Paragraph (5) of the law recognizes the possibility of using biological identifiers (such as genetic markers, DNA, etc.) instead of a person's handwritten signature or ink seal. However, these documents must be archived in a way that allows for identification. In practice, notaries public use electronic fingerprints because they are inexpensive to produce and store, small in size, widely used in business relationships, recognized in laws and regulations, and can be printed out in paper form. Also, the uniqueness of each person's fingerprint compared to others makes it possible

to rely on it to identify their identity in all parts of the world (Kevin, 2022).

The requirements listed for the Office of the Digitization of International Documents and Treaties do not imply the imposition of new obligations on the authorities for the digitization of international documents and treaties, because traditional registry offices must also have these characteristics in order for the registration made by legal persons to be considered. As Article 21 of the Notary Public and the Association of Notaries and Assistant Notaries Law implicitly contains most of the above provisions. According to this Article, the principles of notarial acts shall be prepared upon request of the parties in their number. In any case, an additional copy shall be prepared, and the latter copy shall be kept in the registry office. Intermediaries can obtain copies or photocopies of documents. In cases where there is a claim of forgery or a claim of inconsistency between a photocopy or copy and the original document, notary offices are required to temporarily send the original document sealed and sealed to the judicial authority upon request by the competent judicial authorities, and whenever the said authorities deem it necessary to inspect the office, they can inspect it at the office (Mike, 2019).

### **Technical aspects of international documents and treaties technology**

With the expansion of the use of cyberspace and the businesses that have been formed online and on the web, the issue of digital products has become doubly important. In a way, the production of international documents and treaties, which is a sub-branch of the IT field, is constantly developing and progressing. In this section, we will explain the concept of digital documents as well as the types of digital products:

#### **• Digital or electronic documents**

Digital documents refer to any documents that are created in the form of digital data. Digital documents may also be known as digital media.

Digital documents are stored in digital or analog memory in specific formats. Electronic document forms include information that is transmitted digitally or exists in computer files that are stored or made available online by the provider. At a glance, digital documents often include popular media types in today's cyberspace. While a broader approach to the concept of electronic documents considers any type of digital information "such as weather forecasts, GPS maps, etc. digitally updated" as digital documents. Digital documents have made it easier for people to access wider information, receive news and watch television online, and also make purchases (Martin, 2016).

#### **• Types of digital documents**

There are different types of digital documents, and given that they are constantly changing and developing, a new type of electronic document may emerge and be introduced in electronic platforms at any moment; therefore, it cannot be said that it is exclusive, but among the most important and widely used types of digital documents are:

#### **1. Video**

Types of video documents include home videos, music videos, television shows, and movies. Many movies and television shows are not freely available under intellectual property rights, but can be purchased from sites that provide international treaties (Carolina and Taylor, 2016).

#### **2- Audio - Music**

Audio - music is the most obvious example of documents. This type of digital documents is also made available to applicants on online platforms through document providers (Marcelo et al, 2021).

#### **3- Images**

Photo and image sharing is another example of electronic documents. Some of them are provided to individuals for free and these are typically free online platforms where people share their images

for free, but the images may also be sold as a digital commodity (Pablo, 2022).

#### **4. Visual Stories**

Visual stories, which have recently emerged in the digital world, are actually a new type of digital document. Visual stories are presented primarily through the use of visual media. These stories may be produced using still photography, illustration, or video, and can be enhanced with graphics, music, sound, and other virtual instruments. This title has also been used to describe various genres of visual storytelling, from news and information (photojournalism, photo essays, and documentary films) to entertainment (art, film, television, comic books, and graphic novels) (Lukasz, 2022).

#### **5- Text**

Text is another type of digital document that exists in text or written form. Websites that store data in text format are called weblogs.

##### **• International treaties**

A digital service is an online service provider that provides access to and sells goods and services to visitors in exchange for money. International treaties are either hosted primarily on a dedicated server owned by the service provider or on hard disks using a protocol or possibly a dedicated server to complete the information and make the international treaties accessible (Rebekah, 2021).

#### **Supply Agreement in International Documents and Treaties**

Supply agreements in international documents and treaties are concluded between the supplier of this type of digital product and the consumer. The subject of this agreement is international documents and treaties, which the supplier undertakes to provide to the consumer within a specified time period and with the quality specified in the contract. Also, considering the

technical dimensions and type of digital product, according to this contract, the supplier must provide the consumer with software or online platform for using digital documents or services during the contract execution period, and also resolve all technical, security, problems, and disruptions created for the consumer's use. The following section will analyze the nature of the supply contract and its legal challenges (Solve, 2021).

#### **1- The nature of the contract to provide**

The digitization of international documents and treaties is a consent between two or more legal wills within the framework of offer and acceptance, which is concluded in the digital environment. In terms of legal nature, a supply contract is not much different from traditional contracts, but in terms of the subject matter of these contracts, which is the presentation of international documents and treaties on online platforms, it has acquired special characteristics that the traditional rules of the contract law system cannot cover all of.

Another difference between supply contracts and traditional contracts is the place of conclusion, which is that supply contracts are concluded in a digital and electronic environment. Therefore, by emphasizing this feature that the parties to the supply contract have accepted obligations towards each other in a digital context, with the consent of the parties, "the supplier's obligation to provide a specific type of digital document or service and in return the consumer's obligation to pay a specific amount as the price of the contract," it can be considered an electronic contract. The contractual consideration in a supply contract can be digital currencies (Jeffry, 2018).

Regarding the way these contracts are formed, supply contracts can be considered among the contracts under which the parties conduct pre-contractual negotiations on a digital platform, often blockchain, and after reaching consent and agreement, assume obligations to each other. In



terms of analyzing the nature of the contract, given that there is currently no independent law on the principles and method of its formation, as well as its functions; based on Article 10 of the Civil Code, which stipulates that "private contracts are enforceable against those who have concluded them, unless they are explicitly contrary to the law," a contract is considered valid and valid. Due to the way supply contracts are concluded online, the signature of the parties to the contract must be digital (Bryan, 2019).

## **2- Rights and obligations of the parties to the supply contract**

In traditional contracts, the parties to the contract are known as the seller and the customer, but given the emergence of the new function of the digital space based on the presentation of international documents and treaties compared to traditional contracts, the parties to the contract must be described and analyzed in terms of the specific nature of the supply contract in order to explain and specify the rights and obligations of each party to each other.

### **Substantive and Formal Rules for the Digitization of International Documents and Treaties**

The claim that the nature of the digitization of international documents and treaties is different from traditional registration is doomed to discredit; therefore, talking about "nature" in this discussion is actually emphasizing old concepts in a new format. However, the digitization of international documents and treaties, documents and signature certificates in this way differs from the traditional registration system in terms of how they are stored, processed, and recorded, and it is necessary to provide some clarification on this matter (Bryan, 2019).

#### **1- The nature of the digitization of international documents and treaties**

From what has been briefly mentioned about the procedures for digitizing international documents

and treaties and their terminology, it can be seen that the digitization of international documents and treaties, firstly: It will not be limited to design, registration, or signature certification (as contemplated in Article 31 of the Electronic Commerce Law regarding electronic certificate issuance service offices and the regulations prepared for it). Secondly, the establishment and management of these offices does not require new or arduous work compared to existing notary offices, which requires entrusting its management to a technical expert (non-lawyer). Rather, by designing the system from a technical perspective, its management should be entrusted to the competent organizations in the field of registration, like the current notary offices, due to the relationship of the issue to the rules and principles of opportunities and threats, and any purely technical thinking in this area should be avoided (Lorna et al, 2016).

Thirdly, the conversion of existing notary offices into offices for digitizing international documents and treaties requires only one condition, and that is having the necessary technical and scientific facilities and capabilities, which notary offices can use to achieve this condition from relevant experts. It is obvious that registries are not required to digitize international documents and treaties, and if they do so, they cannot be limited to this type of registration and prohibited from carrying out paper registration activities (Ahmadi and Farahmand, 2014).

Therefore, the digitization of international documents and treaties is not of a nature that has separate effects in terms of opportunities and threats compared to paper registration; Because what has changed is the change in the means used to carry out the various stages of document registration (relevant evidence, storage, archiving, marketing, access, printing, copying, etc.), and this should not logically be considered as a change in the nature of the official electronic document compared to its paper equivalent. The principle of "identity of the nature of the electronic document" has the following important effects:

1-1- To realize the principle of uniformity of an electronic document, if its "official" type is intended, the three main conditions of an official document (according to Article 1287 of the Civil Code: preparation by a competent official within the limits of competence and in accordance with regulations) must be met. Otherwise, a document produced or sent by electronic means cannot be considered official in any way. This work itself indicates that simply applying the title of official document or "officially" to a document (even if it is issued by the legislator) cannot be considered official; therefore, the provisions of Article 15 of the Electronic Commerce Law<sup>3</sup> are in clear violation of specific laws and regulations regarding official documents and evidence to prove a claim (Bahri, 2010).

1-2- The official status of a part of a document or the preparation of a part of an electronic document with an officer designated by law does not mean that the entire document is official or in the sense of being official. According to Article 31 of the Electronic Commerce Law, "Electronic certificate issuance service offices are units established in the country to provide electronic signature issuance services. These services include the production, issuance, storage, transmission, verification, revocation and updating of certificates of authenticity (electronic signatures). The last part of the article, by mentioning "certificates of authenticity of electronic signatures", seeks to convey the concept that with the certification of the authenticity of the signature by the certification service offices, the document in which the signature is included should also be considered undeniable and indisputable. However, the spread of the effects of the opportunities and threats of an electronic signature, which can be separate from the text or used only to sign a part of the text, will not be valid for the entire text unless the notary public confirms the authenticity of the electronic signature and its inclusion in the entire text (Rezaei, 2014).

<sup>3</sup>Article 15: "With respect to secure "message data", secure electronic records and secure electronic signatures, denial and doubt are not permissible, and a claim of forgery can only be made against the said "message data" or proven that the said "message data" has become invalid for some legal reason."

1-3- The nature of technology updating and its progress over time requires that, in order to maintain the "official" nature of electronic documents that meet all legal requirements, another important stipulation be added and taken into account in the regulations regarding the digitization of international documents and treaties and issued electronic documents. This description will be the phrase "synchronization of the document technology and the electronic signature contained therein with the advanced conditions and circumstances of the day." To establish this restriction, the legislator can set a specific deadline after which notary offices will be required to upgrade the software and hardware of the equipment used to carry out the various stages of digitization of documents and international treaties.

### **Validity and Rules Governing Electronic Documents**

With the electronic registration of documents, the need for the characteristics that are prescribed for a regular or official paper document in substantive or formal laws is not eliminated, because an official electronic document will have all the protection and guarantee benefits prescribed for other documents, and the formalities and criteria for its regulation must be observed in a way that does not raise doubts about the safety of the documents. Several laws and regulations have addressed the issue of whether electronic documents are valid or not. For example, in the United States, E-Sign and Utah<sup>4</sup>, which have become de facto standard laws worldwide, recognize the same validity for electronic documents compared to paper

documents. This process was completed with two UNCITRAL Model Laws adopted in 1996 and 2001 (Elsan, 2012).

Section 62(a)(2) of the Malaysian Digital Signature Act 1997 also implicitly confirms the validity of the message data used to create an electronic document. According to this section, "except as otherwise provided by law, a document authenticated by a qualified digital signature under this Act shall be as valid and binding as a document authenticated by a handwritten signature or fingerprint or any other mark."<sup>5</sup>

In Iranian law, according to Article 6 of the Electronic Commerce Law, whenever the existence of a writing is required by law, except in exceptional and limited cases, "message data" is considered to be a writing, and according to Article 8, "whenever the law deems it necessary for information to be presented or stored in its original form, this or the storage and presentation of information in the form of message data is also possible." And according to the last part of Article 9 of the same law, "replacing paper documents instead of "message data" will not affect the previous rights and obligations of the parties."

---

<sup>4</sup> Electronic Signature in Global and National Commerce Act [E-sign]. Effective October. 1,2000.

<sup>5</sup> Malaysian DIGITAL SIGNATURE BILL 1997, A Bill initiated An Act to make provision for, and to regulate the use of, digital signatures and to provide for matters connected therewith.

Finally, Article 12 of this law is formulated in a way that removes any doubts and suspicions about the validity of electronic documents and records solely in their electronic form and format. "Documents and evidence to prove a claim may be in the form of message data, and in no court or government agency can the probative value of "message data" be rejected based on existing

rules of evidence simply because of its form and format."

It must be emphasized, however, that no electronic document, evidence, record, or signature is considered official before it has undergone the legal formalities of registration. In this regard, we can cite judicial decisions that, although they do not directly address this category of documents due to the lack of electronic documents, contain general rules for how documents are considered "official".

According to a court ruling, "forgery of an ordinary check is not considered forgery of an official document."<sup>6</sup> The Supreme Council of Registration also ruled that the official necessity and enforceability of a document are necessary conditions for requesting its enforcement: First, Article 1 of Law 27/6/22 [Law amending some articles of the Registration Law and the Notary Law] states: "Anyone who considers an order to execute an official document to be contrary to the provisions of the document or contrary to the law, or who otherwise has a complaint against an order to execute an official document, may file a lawsuit in accordance with the procedure prescribed in the Code of Civil Procedure" (Qasemi Hamed and Barari, 2019).

The subject of this article is the case where there is an official document or at least there is no obvious knowledge that the document is not official. If there is obvious knowledge that the document is not official, there is no case for the application of the said article. In general, given that the office in question was dissolved before reaching the power of attorney document number, according to Articles 1287-1294 of the Civil Code, the power of attorney document is not formal and apparently there is no case for applying Article 1 of Law 27/6/22. Second; By the same reasoning, there is no case for applying Article 99 of the Registration Law and it is as if it was issued based on a regular executive document that should be set aside. It is appropriate to explicitly grant powers in the amendment of registration laws to declare



documents that are obviously not official, spontaneously (without judicial declaration), null and void”<sup>7</sup> (Qasemi Hamed, 2009).

---

<sup>6</sup>Branch 171, Criminal Court 2, Case No.: 33368171, Date: 11/11/68, Case No.: 1756.

<sup>7</sup>Decision No.: 211-05/06/1343, Decision of the Supreme Council of Registration, quoted by Dr. Mohammad Jafar Jafari Langroodi, Decisions of the Supreme Council of Registration and its Explanation, pp. 258-259.

Several opinions indicate that uncertified copies of official documents are not considered official and that forgery of them is not a distortion of official documents. For example, one opinion states: “According to Article 20 of the Penal Code and its legal definition, forgery of photocopies of official and ordinary documents and their use is not considered criminal forgery, but if the photocopies of documents, whether ordinary or official, are certified, forgery of them and their use is considered a crime.” Also, the unanimous decision of the Court of Appeals No. 6339-27/9/1342 states that forgery in photocopies or copies of documents does not apply and is not considered an example of forgery in a document in the sense and concept of the law.<sup>8</sup>

Therefore, the action of the e-commerce legislator in granting the effects and provisions of official documents to any document, record, or electronic signature or their copy - without the need for certification and authentication of those “data messages” in authorized authorities - would be surprising and would result from a lack of accuracy in the nature and formalities necessary for the document to be official (Ahmadi and Farahmand, 1400).

**The necessity of going through legal formalities for the officiality of the document signature and electronic certificate**

By registering the document and going through the formalities of signing, “a document that has been registered in accordance with the laws is official and all the contents and signatures contained in it will be valid unless the forgery of that document is proven” (Article 70 of the Registration Law); Therefore, statutory law cannot make a document distinctive without reason and consider it official simply because its form and format are new or attribute to it the effects of an official document.

Articles 14 and 15 of the Electronic Commerce Law provide a benevolent assessment of electronic documents and evidence, and it is thought that perhaps this can help promote the production and use of such documents:

- Article 14: All “message data” that have been created and stored in a secure manner, in terms of the contents and signatures contained therein, the obligations of the parties or the party that made the commitment and all persons who are considered their legal representatives, the implementation of its provisions and other works, are valid and citable documents in judicial authorities and opportunities and threats (Zarkalam and Hashemi, 2010).

<sup>8</sup>Gholamreza Shahri and Soroush Sotoudeh Jahromi (compiled and edited), Theories of the Judiciary's Management of Opportunities and Threats in the Field of Criminal Issues, from 1979 to 1992, Theories of the Judiciary's Management of Opportunities and Threats, 4902/7-12/9/1999, Volume 1, Published in the Official Gazette of the Country, Spring 1994. See also: Judgment No. 2667 issued in the case file 80/2326, dated: 1/10/1997, Branch 816 of the Tehran General Court.

- Article 15: There is no denial or doubt regarding the secure “message data”, secure electronic records and secure electronic signatures, and only a claim of forgery can be made against the said “message data” or it can be proven that the said “message data” has lost its validity for some legal

reason. It is not clear how the conflict of these articles with the previous article of the same law<sup>9</sup> and the basic principles governing documents and the way they are considered “official” should be resolved (Bahri, 2010).

Removing document registration offices from the structure of formation, security, and verification of signatures and electronic documents is harmful, and instead of understanding and solving this problem, the legislator has sought to add to such problems. The attempt to draft regulations for Article 31 of the Electronic Commerce Law (Electronic Certificate Issuance Service Offices), the draft of which indicates the independence of these types of certificates from registration offices, is an example of fruitless efforts.

It must be acknowledged that without the intervention of notaries - or any other body that respects the traditional principles of document registration - other problems arise, the effects of which are far worse and more widespread than the above: The lack of a reliable record and archive of documents, the existence of a certificate forever, the possibility of assigning a private key from one person to another due to ignorance or mistake, disclosure of encryption or invalidation of its standards, unauthorized change of password, etc. are considered technical and scientific problems.

In American law, Utah's failure to specify the role of notaries in the digitization of international documents and treaties, and as a result, the enactment of specific laws in American states that did not require the presence of a digital signer in notaries, was heavily criticized by lawyers and document registration practitioners.<sup>10</sup> So much so that the National Association of Notaries considered it a kind of unofficial encroachment<sup>11</sup> on its field of work. In explaining the flawed process, opponents argue that E-Sign, as a federal law and the domestic laws and regulations of some states, allows individuals - explicitly or implicitly - to obtain a digital certificate from an authorized certification authority and use it to

create registered digital signatures, without any restrictions and without using the services of notary publics. It allows for the abuse of individuals through the use of other people's identities (identity theft) and anonymity.

<sup>9</sup>Article 13 of the Electronic Commerce Law stipulates: “In general, the probative value of ‘data messages’ is determined by considering reliable factors, including the suitability of the security methods used with the subject and purpose of the exchange of ‘data messages’.” This article conflicts with Articles 14 and 15, which consider data messages to be “official documents or equivalent to official documents.”

<sup>10</sup> Thaw, Deborah M. the Notary Public and its Impact in 21st Century, A Presentation at the NACO/NACRC Annual Conference, 2000. p. 4; Valera, Milton, G. In Notarization, There is no Substitute for Personal Appearance—Despite Technology, A Presentation to the Property 2000. p. 4.

<sup>11</sup> Verbal Misappropriation A Position on Misleading Usage of Notary Terms in the Electronic Age A Position Statement from the National Notary Association 2001. p. 1.

Finally, the collective and individual efforts made have borne fruit to some extent, because Article 3, Section 16-3 of the Model Law on Notaries provides for the prevention of anonymity:

"Offices should not attempt to digitize international documents and treaties if the signer of the electronic document:

1. The notary public did not present the official documents at the time of registration.
2. His identity is unknown to the notary public and there are no valid reasons for the notary public to verify his identity.
3. There is evidence that the notary public doubts whether the signatory is aware of the effects of

the opportunities and threats of what he is requesting to register (Qasemi Hamed, 2009).

4. In the opinion of the notary, his (the signatory) free will is not established.”

The electronic certificate issuing service offices mentioned in the Electronic Commerce Law do not have the authority and jurisdiction to review any of the above. This has no meaning other than to fuel anonymity, anonymity, and identity theft in electronic relationships. The undesirable effects of the aforementioned trend include; forgery, fraud, breach of trust and other crimes in cyberspace. However, by relying on the digitalization of international and formal documents and treaties, some of which were mentioned, many problems can be reduced.

In the field of electronic signature registration, three important principles should be considered in the first place:

1- Using the valuable experience of other countries and the practical procedures developed in their document registration offices to reduce the cost of studying and implementing the digitization of international documents and treaties is something that must be accepted - of course, while respecting the rules, criteria, and specific characteristics of the country's registration system. In this regard, in-depth study and research are needed, and the mere translation of domestic laws and regulations of other countries will cause the same problems that are observed in some domestic laws (Alsan, 2012).

2- The discussion of digitizing international documents and treaties, although very new, such that it is practically impossible to imagine a history of more than 5 years for it; however, it should not be considered a violation of the principles and rules of registration established over the years. The explanatory preamble to the Model Notary Act of the United States<sup>12</sup> also emphasizes that, "Although technology is evolving and evolving, unfortunately, the nature of the people who use it is not. Any ritual - whether paper or electronic - for recording

documents and signing requires the physical presence of the signer in a qualified and competent notary office."

<sup>12</sup> The Model Notary Act, Op cit, p. 75.

Contrary to popular belief, the digitization of international documents and treaties should not be considered as a factor in "eradicating" official registration (in the field of e-commerce). Accordingly, the aforementioned introduction states that all definitions and terms stipulated in the law will be applied to both paper and electronic registration, including authentication and certification, signature, testimony and all related specialized concepts (Lorna et al, 2016). The experience of other countries shows that if e-commerce is implemented, the issue of security on the one hand and the justification of claims on the other will be raised. The digitization of international documents and treaties will solve many conceivable problems in this area (Waded and Servin, 2019).

3- Regarding the digitization of international documents and treaties, signatures and evidence, the important point is "trust" in the notary and the effort to achieve current standards. The latter is so important that without it, it is impossible to imagine the possibility of efficient and principled digitization of international documents and treaties.

Any attempt to transfer registration as described above to a new organization or individuals who have no expertise in registration matters will be doomed to failure due to their unfamiliarity with the principles and rules of registration. The registration of electronic signatures and documents follows the same rules and principles that apply to other documents and signatures (paper and handwritten), and contrary to the opinion of some, technological developments cannot be used as a justification for violating the principles and rules. First of all, the "digitalization of international documents and treaties" should be recognized by passing an appropriate law and a number of existing notary

offices should be dedicated to this after the necessary training. The possibility of registering in both electronic and paper formats in these offices is the best reason for not deviating from existing principles and rules. The Office for the Digitization of International Documents and Treaties, while being able to register digital signatures and provide electronic support for registered documents, will also be able to handle its daily and ordinary affairs and, for example, register real estate transactions.

The claim that accepting the establishment of signature issuance centers and the digitalization of international documents and treaties separately will lead to more formal and complex electronic transactions and, as a result, a lack of interest in them is also doomed to discredit, and it cannot be done to speed things up and reduce costs, creating major problems in terms of fraud, scams, and abuse in cyberspace, making it difficult to prove issues. At the same time, with the establishment of precise regulations, it is possible to issue and register electronic signatures in a single authority (office) and in the shortest possible time. Striking a balance between the philosophy of expanding electronic commerce and its safety and reliability is the best option, which can be easily achieved by digitizing international documents and treaties, signatures and evidence (Howard, 2018).

### **Legislative Background of the Digitalization of International Documents and Treaties**

Iran's experience in this field is insignificant, and as reviewed in this article, if the discussion of electronic commercial documents has been proposed in addition to the law, the incorrect practice of granting the effects of official documents to these documents has always been considered; without any reason being provided or justification in the preliminaries of compilation or the latter stages of interpretation. Even European Union law has been slow to evolve regarding the developments in the registration system in the age of information technology (Kevin, 2022).

Studies have shown that American law is more advanced than other countries in having explicit provisions for the digitization of international documents and treaties. In the United States, two important laws have recognized the digitization of international documents and treaties and have outlined the principles and rules governing it. The Model Notary Act<sup>13</sup>, enacted in 2002 as a regulation that has been considered in legislative capacity in all 50 states, is in fact the most important law in the field of digitization of documents and international treaties. In addition, the Model Law on Electronic Storage of Real Property Data<sup>14</sup>, developed by the United States Conference of Official<sup>15</sup> Delegates to the Uniform Code of August 2004, contains provisions on how electronic storage of electronic data (as produced or recorded) is used, has been given importance. The data message must be prepared and stored with the most advanced equipment available; otherwise, the electronic document created will not be reliable and, consequently, the issued document will have no value. The process and procedure for preparing and storing documents must also always be under control in order to speak of the safety of documents and records. The existence of a single procedure in the field of technology or techniques used in the different stages of producing or storing documents and the application of existing standards in these fields are also points that the law should mention, while listing them, and remind the importance of its verification by digital document offices and international treaties (Mike, 2019).

### **Basic rules for drafting regulations for the digitization of international documents and treaties**

Basic rules should always be considered when drafting regulations for the digitization of international documents and treaties or laws that address the evidentiary value of electronic evidence. The fundamental principles and traditional process of document registration should remain the same and the advancement of technology in signing or creating documents



should not extend its dominance to this area. No rule in document registration is more important than the fact that the signatory must appear in a legally established registry office and sign the relevant document or request the certification of his signature. Technology is advancing every day, but unfortunately, the nature of the humans who use it is not (Kevin, 2022).

<sup>13</sup>Model Notary Act 2002. at:

[www.nationalnotary.org/UserImages/Model\\_Notary\\_Act.pdf](http://www.nationalnotary.org/UserImages/Model_Notary_Act.pdf)

<sup>14</sup> The Uniform Real Property Electronic Recording Act (URPERA), At:

[www.law.upenn.edu/bll/ulc/urpera/Approvedfinal2004.pdf](http://www.law.upenn.edu/bll/ulc/urpera/Approvedfinal2004.pdf)

<sup>15</sup>National Conference of Commissioners on Uniform State Laws. Official Site:

[www.law.upenn.edu/bll/ulc/ulc.htm](http://www.law.upenn.edu/bll/ulc/ulc.htm)

Any act that is called "notarized" requires the presence of the "original" at the notary's office, and avoiding this barrier means not having a notarized document. Despite the established custom, the digitization of international documents and treaties does not mean that the registration of the document by a notary public is unnecessary, and even a violation of E-Sign, as the drafters of the Model Law on Notaries considered the provision of a separate tariff (registration fee) for the digitization of international documents and treaties unnecessary and even a violation of E-Sign. This law allows existing notary offices to dedicate a unit of their office to this type of registration by proving their capability and facilities for digitizing international documents and treaties (Section 2-15 of the law and explanatory preamble); therefore, according to the law, electronic notary offices are not anything different from traditional registration offices. Each office can do this if they wish, but of course they are not required to do so (Qasemi Hamed, 2009).

### **Compliance of domestic regulations with the laws of digitization of documents and international treaties**

The compliance of the digitization of documents and international treaties with the existing principles and rules for registration in its general sense requires that its compliance with some articles of registration laws that may lead to challenges be examined. In the remainder of this study, we will mention the articles and their compliance with the new registration system:

#### **• The jurisdiction of the offices for digitizing documents and international treaties**

According to Article (2) of the Law on Registration of Documents and Real Estate, approved on March 16, 1310, "Directors and representatives of the registry and officials of the offices and owners of notary offices cannot perform their duties except at the place of their mission, and their actions outside that place have no legal effect." The latter part is considered a heavy guarantee of execution for the violation and registration of the document outside the place of the mission. More importantly, this guarantee includes not only the notary or any other registration officer, but also the owners of the document, and it seems that the legislator has given priority to the protection of public rights over any other priority such as the ignorance of the client and, as a result, his good faith. A debate that can be raised regarding the digitization of international documents and treaties is whether the general rule of Article (2) also applies to this method of registration or whether the legislator should seek to limit it by taking into account new global developments!

It goes without saying that in cases where the presence of the applicant for registration with the notary is required, it will be out of the question, but there is an idea that there are some matters in the offices of digitization of documents and international treaties that do not require presence, and no justification can be provided for applying the restriction of Article (2). In particular, in cases where the holder of an electronic document needs to receive information from the office that issued the document, while he is outside that location and it is possible to provide that information electronically, Article (2) cannot be generally



applied. The spirit of the article also indicates that geographical restrictions cannot be applied in the system of digitization of documents and international treaties for all matters that a specific registration authority or notary must request or respond to during or after the issuance of a document. This exception to the traditional general rule, which is itself a rule in the digitalization of international documents and treaties, will be subject to conditions such as “the necessity of registration”, “the physical presence of the applicant is not required by law”, and “the possibility of doing it electronically”. If a specific law is foreseen for the digitalization of international documents and treaties, this issue should be taken into account (Qasemi Hamed and Fallah, 2014).

Granting unlimited jurisdiction to notaries public in the wake of the digitalization of international documents and treaties has two important effects of opportunities and threats: First, the issue of digitizing international documents and treaties will be resolved on its own at the international level, and when applicants for registration apply to any of the registration offices, that authority will be required to register and, of course, respond to the technical needs of the applicant after registration. According to Article 83 of the Law on Registration of Documents and Real Estate, “the jurisdiction of each notary office will be determined by the regulations of the Ministry of Justice.” This area can be used in the digitalization of international documents and treaties with a little generosity and consideration of the characteristics of information and communication technology and the facilities resulting from it (Qasemi Hamed, 2009).

Secondly, a notary public that digitizes international documents and treaties can provide a certified copy of its documents and evidence, which is not prohibited by law, to parties to the transaction electronically, even outside its jurisdiction. The law does not seem to contradict the provision of this type of service, which simply leads to speed, cheapness, and a reduction in formalities.

### • The concept of electronic document decomposition

According to Article 70 of the Law on Registration of Documents and Real Estate, “A document that has been registered in accordance with the laws is official and all the contents and signatures contained therein will be valid unless the forgery of that document is proven.”

First, it should be explained that in terms of safety and enforceability, official documents have a special priority over other evidence, but this will be subject to, among other things, the "integrity of the document" and "undoubted attribution of the document to the applicant person or persons through signature." Signing documents and certifying them with a seal creates a document that is attributed to the person signing it, and at least in this respect there is no possibility of doubt. The presence of a notary and the legal formalities of registering the document also contribute to its validity. It is the notary who certifies the signature of the person's good will and is responsible for this fact (Mike, 2019).

Although the name "signature" is used for both manual and digital signatures, there is no doubt about the essential difference between the two. A manual signature indicates that the person has approved the document, while a digital signature of a given document implies the use of the private key belonging to the given person to encrypt it, which in the absence of notarization indicates nothing more than that the message data has not been changed after its creation. In other words, without a registered record and precise scientific evidence, a digital signature does not imply any involvement of an individual in the content of the document in which his signature is used<sup>16</sup> (Elsan, 2012).

The idea of disassembling an electronic document brings to mind two major issues: on the one hand, attribution of a data message to a specific person, unlike a paper document, is not necessarily based on a signature, and it is possible for an electronic document to be attributed to the person on whose behalf or for whom the document was issued without a matching

signature. Clause (e) of Article 2 of the Electronic Commerce Law also confirms this. The aforementioned clause stipulates: "Integrity of message data" means the complete and unaltered existence of "message data". Actions resulting ~~from system administration, such as sending,~~ storing, or displaying information that are normally performed, do not compromise the integrity of "message data". Clause (d) of Article 10 of the Electronic Commerce Law, taking into account the fact that an electronic signature may not prevent the text (message data) from being changed and distorted, stipulates as one of the conditions for a secure electronic signature that the signature must be "connected to a 'message data' in such a way that any change in that 'message data' can be recognized and discovered" (Qasemi Hamed and Barari, 2019).

On the other hand, if evidence is not provided that the signature and the electronic text are identical, it is not possible to claim the unity of the signature and the text and, consequently, their attribution to a single person. In fact, the digital certificate, which is emphasized in the country's major e-commerce policies, is nothing more than confirming the identity of a person and attributing a signature to him, and its implication that the text is attributed to the signer will only be possible with a notary's certificate - along with the person's presence before the notary and the notary's verification of his identity, maturity, and authority.

#### • Incomplete domestic policies on electronic certificates

In the explanatory report and e-commerce policy of the Islamic Republic of Iran<sup>17</sup>, the Ministry of Commerce is required to "implement the basic parts of the country's national e-commerce plan and realize it through plans, within a maximum of one year after the allocation of the necessary budget," which includes the following:

"Establish a model digital certificate authority in the country for use in the field of electronic commerce, taking into account the executive organization, necessary hardware and software, using globally accepted services and technology.

After the launch of the national digital certificate authority system in the country, this authority will be included in the framework of that system" (paragraph 4-3).

<sup>16</sup> Gladman, Brian, Ellison, Carl and Bohm, Nicholas. Digital Signatures, Certificates & Electronic

<sup>17</sup> Commerce, Version 1.1, revised 8th June 1999, Digital Signatures, Certificates and Electronic Commerce. P. 10.

"Given the need to strengthen the country's practical capacity in digital certificate technology, while implementing paragraph 4.3, support the creation of national technology using domestic experts and utilize its results" (paragraph 4.4). In paragraph 16 of the same text, the Secretariat of the Supreme Council for Information is tasked "With the participation of the Ministries of Commerce, Post, Telegraph and Telephone, Information, the National Management and Planning Organization, Science, Research and Technology, Industries and Mines, and the Central Bank, it took the necessary measures to prepare a comprehensive plan to maintain the security of electronic transactions, maintain the confidentiality of statistics and information, and observe the integrity of content belonging to users of the public information transmission network (within the country) and the national digital certificate system and take action for approval by the Strategic Commission and submission to the Supreme Information Council for decision-making."

The unclear status of the "digital certificate" in the "Explanatory Report and E-Commerce Policy of the Islamic Republic of Iran" is while the "Explanatory Draft of the E-Commerce Law"<sup>18</sup> merely presents a comparative report of the laws of some countries regarding electronic certificates and refrains from analyzing and drawing conclusions in this regard (Ahmadi and Farahmand, 1400).

A review of the regulations currently being passed shows that, unfortunately, the "Commercial Law Amendment Bill"<sup>19</sup> sought to complement the innovations of the Electronic Commerce Law. Chapter Four of Chapter Five of the Commercial Law Amendment Bill, in addition to Articles 412-426, which are considered detailed in their own right, discusses "electronic commercial documents." A brief review shows that the articles conflict with each other and with the principles and rules of documents and evidence to prove a claim. Article 420 states that "forgery can be claimed with respect to an electronic document." In addition to emphasizing the correctness of the provisions of Article 15 of the Electronic Commerce Law, it contains the opposite concept that "no denial or doubt is permissible with respect to secure "message data", secure electronic records, and secure electronic signatures" (text of the first part of Article 15 of the Electronic Commerce Law); because the drafters of the bill did not object to denial or doubt in their capacity to state possible claims against electronic commercial documents (Ahmadi and Farahmand, 1400).

Considering the general concept that Article 412 provides<sup>20</sup> regarding electronic commercial documents, it is not unlikely that in the future we will witness the issuance of documents that cannot be denied or doubted without going through legal formalities.

---

<sup>18</sup> Explanatory Report and E-Commerce Policy of the Islamic Republic of Iran, (6th edition), approved by the Specialized Commission on Economic Information, Commerce and E-Commerce.

<sup>19</sup> Commercial Law Amendment Bill, "Process and Principles of Compilation and Innovations", Deputy for Planning and Economic Affairs, Ministry of Commerce, Economic Studies Office, July 2005.

<sup>20</sup> Article 412 of the bill: "Electronic commercial documents include bills of exchange, promissory notes, checks, official warehouse receipts, stocks,

bonds, and other commercial documents that are announced and exchanged electronically in compliance with the conditions set forth in the law."

A privilege whose granting is subject to ambiguity by Article 421 of the bill. According to the latter article, "A claimant of forgery of electronic commercial documents or a claimant of inconsistency of alternative documents with paper documents may, as the case may be, reserve his rights to the said documents by completing special forms that include the cause of the inconsistency, the loss caused, and the necessity of returning the original (paper) alternative document or forgery of electronic commercial documents." Therefore, in the conflict between an electronic alternative document and a (paper) reference document, on the one hand, the claim is not limited to forgery and, on the other hand, the nature of the reference document (which can be unofficial and therefore deniable and questionable) is the basis. The latter case is explicitly stated in Article 417, which stipulates: "The electronic substitute document is in every respect the same as the original document, and in the event of any discrepancy between the substitute document and the original commercial document, the original document shall prevail." It is also confirmed and shows that the drafters doubted the absolute validity they recognized for electronic commercial documents in Article 412 (Howard, 2018).

The fundamental flaws that have not been addressed and have led to fundamental problems in the above articles are actually contained in Articles 14-16 of the Electronic Commerce Law, which were discussed in this article. In completing the discussion, it should be briefly noted that the intention of the legislator of the Electronic Commerce Law with the phrase "as valid and credentialed documents in judicial authorities and opportunities and threats" in the last part of Article 14 is not clear. It can only be stated that the unprecedented nature of the phrase and the unknown nature of the opportunities and threats of documents "as valid and credibly relied

upon documents in judicial authorities and opportunities and threats" indicate the lack of comprehensiveness of the drafters regarding the evidence to prove the claim, because the document is either ordinary or official (Article 1286 of the Civil Code). A third situation is also conceivable, where a document, by proving certain events, "has the probative effects of an official document" (Article 1291 of the Civil Code). However, it has neither precedent nor meaning for a document to be considered "valid and credentialed in judicial authorities and opportunities and threats" on the spur of the moment and without going through legal formalities in a specific authority! As mentioned, these same assumptions have been included in the Commercial Code Amendment Bill and have paved the way for the formulation of conflicting articles (Bahri, 2019).

Of course, Article 426 of the bill has resolved the problem in favor of electronic documents, because "except for the provisions of this law and its regulations that are specific to electronic commercial documents, the provisions of the paper commercial document shall govern the relevant electronic commercial document." Therefore, electronic documents can be subject to new substantive and evidentiary rules.

The conflict of the "unjustified" benefits of this category of documents with the principles of evidence of a claim<sup>21</sup> will only be "justified" by a specific law that violates the principles.

## Conclusion

The digital world, with its space called "virtual," is an inseparable part of Article 1292 of the Civil Code. Denial and doubt are not permissible against official documents or documents that have the validity of official documents, and the party can claim forgery of the said documents or prove that the said documents have lost their legal validity for some reason (Alsan, 2012).

According to Article 1293 of the Civil Code, if a document is prepared by an official document drafting officer, but the officer does not have the authority to draft that document or does not comply with the legal provisions in drafting the document, the document is valid if it bears the signature or seal of the party.

This is our life; we cannot escape it nor accept it without any rules. In fact, trying to keep up with other countries does not in any way mean trying to invent rules beyond what international standard regulations have thought of in this regard. When something is part of life, no common sense will accept excesses in it; Therefore, in the field of registration and the issues of opportunities and threats arising from it:

1- Like traditional registration, major threats threaten the digitalization of international documents and treaties, which, although they have a new format, are often referred to by traditional titles. Forgery, identity theft, distortion, fraud, abuse, false testimony, etc. also occur in the digitalization of international documents and treaties. However, it should not be considered a failure of a new system that, in establishing rules for it, set aside the realities of the material world or proceeded to formulate regulations without paying attention to the fundamental principles and imperatives and global standards (Ahmadi and Farahmand, 1400).

2- Establishing offices for digitizing international documents and treaties is nothing more than allocating part of the activities of existing notary offices to the "digitization of international documents and treaties" or specializing existing notary offices. The purpose of this is to preserve the principles, rules, and many years of registration customs of the country by entrusting the affairs to the legal registry officers. Without a doubt, notary offices - if they lack technical expertise - should use relevant experts (computers, communications, Internet, etc.).

<sup>21</sup> Comparing the aforementioned articles of the Electronic Commerce Law and the Commercial

Law Amendment Bill with the following articles of the Civil Code shows the extent of the "depth of innovation" regarding electronic documents: Article 1287. Documents that are drawn up in the Department of Registration of Documents and Real Estate or notary offices or with other official officials within the scope of their competence and in accordance with legal regulations are official.

Article 1291. Ordinary documents have the validity of official documents in two cases and are valid for the parties and their heirs and representatives:

1. If the party against whom the document is issued confirms its issuance by the person to whom it is issued.

2- 2. If it is proven in court that the document in question was actually signed or sealed by the party who denied or doubted it.

3-The digitization of international documents and treaties does not mean the "death of traditional registration." Official paper documents still have tangible benefits, and the long-standing habit of paper documents among different classes of society cannot be forgotten. In addition, in cases where electronic issuance of a document is prohibited by law due to interference with public order and interests, consumer rights, etc., the electronic document will not be valid (Qasemi Hamed, 2009).

## References

1. Ahmadi, Taleb and Farahmand, Azar (2011). "A Comparative Study of Threat Protection in Cloud Computing Contracts in the Laws of the European Union, the United Kingdom and Iran", *Encyclopedias of Economic Law*, No. 20.
2. Bahri, Idris (2010). "A Study of Mechanisms for Controlling Unfair Terms in Consumer Contracts", *International and National Conference on Management, Accounting and Law Studies*.
3. Rezaei, Ali (2014). *Electronic Commerce Law*, 2nd edition, Tehran, Mizan Publications.
4. Zarkalam, Sattar and Hashemi, Seyed Reza (2019). "Fundamentals of Civil Liability of Product Producers in the Jurisprudence and Legal System of Iran", *Quarterly Journal of Jurisprudence and Modern Law*, No. 3.
5. Elsan, Mustafa (2012). *Electronic Commerce Law*, 8th edition, Tehran, Samt Publications.
6. Ghasemi Hamed, Abbas and Barari Chenari, Yousef (2019). "A detailed study of the concept of consumer in Iranian law with a comparative study of European directives and French and English law", *Quarterly Journal of Civil Law Knowledge*, Volume 8, No. 2.
7. Ghasemi Hamed, Abbas. (2009). An expert, committed to providing information to the consumer in French law. *Quarterly Journal of Legal Research*.12(49), 187-209.
8. Ghasemi-Hamed, Abbas and Fallah, Arezo (2014). "Class litigation and its impact on protecting consumer rights", *Quarterly Journal of Judicial Law Perspectives*, No. 65.
9. Batat, Waded and Sou Servin (2019). *Transforming Brand and Consumer Experiences*, Sage Publications 7 th.
10. Benet, Howard (2018). *Shopping EU Public Procurement Law: A Critical Analysis of the CJEU Case Law*, Kluwer Law International P, 1 th.
11. Borgeson, Kevin (2022). *Cyber hate: The far right in the digital age*, Roman and Littlefield Publication, 5 th.
12. Burrows, Mike (2019). *Right to Left: The Digital Leaders*, New Generation Publishing. 1 th.
13. Chortles, Martin (2016). *Concepts and Case Analysis in the Law of Contracts*, Foundation Press Publishing, 4 th.
14. Coanta, Carolina and Damyan Taylor (2016). *Convergence in European Consumer Sales Law*, Intersection P, 7 th.



15.Corrals, Marcelo, Emily Fich and Micheal Pugh (2021). Smart Contracts, Hurt Publishing, 11th.

16.Curio, Pablo (2022). Online Dispute Resolution for Consumers in the EU, Routledge P, 8 th.

17.Dawid, Lukasz (2022). The European Union Digital Single Market, Routledge Publishing, 2 th.

18.Dowd, Rebekah (2021). The Birth of Digital Human Rights, Palgrave P, 1 th.

19.Fina, Solve (2021). EU Commerce Law, Stanford Law Books, P.1 th.

20.Friell, Jeffry (2018). Understanding Contracts, Carolina Academic Publishing, 8 th.

21.Garner, Bryan (2019). Guidelines for Drafting and Editing Contracts, West Academic Publishing, 5 th.

22.Gillies, Lorna, Chrise Turner and Richard Carl (2016). Electronic Commerce and International Private Law, Routledge Publishing, 6 th.