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À PROPOS DE NOUS

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ABOUT US

The **International Journal of Digital and Data Law / Revue Internationale de droit des données et du numérique (RIDDN)** is an academic journal created and edited by Irène Bouhadana and William Gilles at IMODEV, the Institut du monde et du développement pour la bonne gouvernance publique.

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ARTIFICIAL INTELLIGENCE APPLIED TO THE LEGAL PROCEEDINGS: THE BRAZILIAN EXPERIENCE

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Artificial intelligence applied to the legal proceedings is able to facilitate the processing of these proceedings and allows the verification of data and information more quickly and effectively. This technology applied to the judicial system ensures greater agility in the processing of proceedings through the mechanization of some tasks previously performed by public servants, which meant more time.

In addition to the mechanization procedures performed by people, the artificial intelligence applied to the legal proceedings also ensures the verification of data, providing greater security with respect to the information provided in the proceedings. One of the ways artificial intelligence does this is by reading and verifying documents that are in the proceedings, pointing out possible fraudulent documents. This not only facilitates defense, it also prevents the filing of new claims.

On the other hand, artificial intelligence applied to the legal proceedings guarantees the digital processing of these procedures, allowing greater access to Justice for the population, increasing access to information and consequently to decisions rendered by the Judiciary, ensuring greater control by citizens of the acts executed by the Public Power, in the judicial sphere.

§ 1 – ARTIFICIAL INTELLIGENCE AND THE ELECTRONIC LEGAL PROCEEDINGS

The application of technology in the electronic legal proceedings facilitates and expedites the processing of proceedings with the automation of activities performed by public servants and lawyers. When filing a case by electronic means, it is no longer necessary for a public servant to verify the presence of certain requirements in the complaint and then proceed to file the suit and refer the case to the competent Court. All this procedure is done by the systems of the Courts that are in charge of ensuring full operation from the provision of certain information by the plaintiff.

This automation is not really about the application of artificial intelligence to the electronic legal proceedings, since these mechanisms and systems are capable of performing tasks commonly performed by people for services that do not require accurate reasoning proper to the human being.

The application of artificial intelligence in the electronic legal proceedings takes place when programs with a predetermined database are developed that are able to present different solutions to achieve the objectives proposed to it in the different situations to which it is subjected.

Among the examples of the application of artificial intelligence in the electronic legal proceedings, we can mention the classification of legal topics as mass or specialized themes, indicating possible consolidated judicial decisions through the reading of procedural documents, or even the indication of possible suspension of the claim considering the existence of an appeal pending judgment by the higher courts dealing with the legal thesis involved in the proceedings.

Currently, the Federal Supreme Court tests the *Victor Project*¹, a tool capable of accurately and quickly tracking resources that deal with issues of general repercussion, which are those that have economic, political, social or legal relevance, categorizing them and selecting all resources that deal with the same matter, thus allowing the suspension of all these resources to ensure the simultaneous judgment of all these proceedings.

There is no denying of the distortion that may occur because it is a system that will analyze procedural documents and search for certain words, terms or phrases that may mistakenly frame resources within the general repercussion. It is clear that in such cases the interested party will be given the right to inform the reasons why his appeal does not fall within the general repercussion and should therefore not be suspended.

However, it is undeniable that the possibility of a program to carry out in five seconds the activity carried out by a public servant in forty minutes will provide greater agility in the processing of the proceedings in general, since magistrates will no longer have to analyze all these claims in detail to take the appropriate measures.

The focus of this article is the use of artificial intelligence in the electronic legal proceedings to guarantee the veracity of the documentary evidence. This measure is essential to ensure that the truth of the facts is attained and thereby ensure better law enforcement and justice by the Judiciary.

A) Conceptualization of Artificial Intelligence

Artificial intelligence is linked to the ability of a program developed from a given knowledge base, programmed to achieve pre-established goals, to rewrite its own code through interaction with the environment in which it is inserted. Artificial intelligence manifests itself when a program, by interacting with a particular environment, is faced with a different situation, but through its

¹ “Inteligência artificial: Trabalho judicial de 40 minutos pode ser feito em 5 segundos”, available at: <http://portal.stf.jus.br/noticias/verNoticiaDetalhe.asp?idConteudo=393522>, access on October 26, 2018.

database it reasons and is able to propose new behaviors and answers, rewriting the code itself.

Before the development of artificial intelligence, what we had was a system programmed with a set of instructions that indicated how the system should react from certain stimuli. The system's reaction did not change with the interaction of the environment in which it was inserted. When some event happened outside of what was programmed, the system, by not knowing how to respond, would collapse. That is, these systems, although considered as intelligent, are not endowed with artificial intelligence because they are developed to reach certain objectives based on pre-established premises and their answers are always given automatically and previously programmed. Thus, when inserted in new environments or subject to new situations, these systems are simply not able to operate and cannot reach the previously established objectives.

In this sense, the great differential of the artificial intelligence is that from an initial programming made to present certain results, the system can present different answers to reach the same result initially intended when interacting with the environment in which it is inserted. In other words, the system is placed to rationally make decisions from the information that is put in its database against the information it perceives from the environment.

One consideration for artificial intelligence is that it is not designed to think exactly like humans, but to make rational decisions. This is due to the fact that humans, as a rule, do not make absolutely rational decisions, and to this day scientists have not been able to unravel or copy the human reasoning². This means that the use of artificial intelligence in the legal proceedings necessarily implies the rationalization of judicial acts and processes, guaranteeing greater rationality to the Judiciary.

Still, in a more instrumental analysis, the use of this technology could allow the truthfulness of the facts to be reached through the reading and verification of documentary evidence presented in the legal proceedings.

B) The Electronic Legal Proceedings

The electronic legal proceedings in Brazil was regulated with the advent of Law no. 11,419 of 2006. However, in 2001, Law no. 10,259 was passed, which disciplined the use of procedural documents without the need to present the original or printed copies of the proceedings before the Federal Special Courts.

This refers to the electronic and digital processing of all procedural acts, beginning with the filing of the claim, a document that must necessarily be digitally signed by a person with advocacy capacity, followed by the subpoena, summons or notification that may occur electronically or not.

²J. F. A. AZEREDO, *Reflexos do emprego de sistemas de inteligência artificial nos contratos*, Master's Dissertation in Civil Law, University of São Paulo, São Paulo, p. 21.

In any case, any judicial referral for the performance of the acts in the proceedings occurs through the judicial systems implemented within each Court, extinguishing the necessity of transporting proceedings between, for example, judicial offices and divisions, thereby reducing the processing time of these proceedings.

In order for the electronic judicial proceedings to take place in a secure manner, it is necessary for each court to establish identification mechanisms for access to the system, which may use signing and digital certification or even user registration through the user- password system³.

In addition, as will be discussed further below, it is also necessary to establish ways of guaranteeing the security of documents presented to the proceedings by both parties and public servants through the digital signature and certification of the documents filed.

§ 2 – ELECTRONIC DOCUMENT AND ITS USE AS EVIDENCE

When entering the study and analysis of electronic documents and their use as a means of evidence in the electronic legal proceedings, it is necessary to make some considerations regarding the concept of electronic document and electronic documentary evidence to then analyze how artificial intelligence can be applied in these documents.

It is considered that document is only what serves effectively to prove facts in the legal proceedings, since it is a passive source of evidence that presents the necessary reports to prove the facts without the necessary participation of the parties⁴.

A) Electronic Document

The documents are “all beings composed of one or more surfaces bearing symbols capable of transmitting ideas and demonstrating the occurrence of facts”⁵ as defined by Candido Rangel Dinamarco.

Thus, a document can be defined as compounds of one or more surfaces bearing symbols capable of transmitting ideas that demonstrate the occurrence of facts or manifestations of wills.

As an electronic document, Augusto Tavares Rosa Marcacini defines it as:

“a digital file, therefore, is nothing more than the logical sequence of bits, wherever it is reproduced. According to a certain coding pattern, such bits numerically represent information which, in turn, can only be known from the intermediation of software, which translates into written

³ T. TEIXEIRA, *Curso de Direito e Processo Eletrônico: doutrina, jurisprudência e prática*, 4ª ed., São Paulo: Saraiva Educação, 2018, p. 589.

⁴ C. R. DINAMARCO, *Instituições de Direito Processual Civil: volume III*, 7ª ed., São Paulo: Malheiros, 2017, p. 658.

⁵ *Ibid*, p. 657.

words, sounds or images so that the digitally registered fact can be captured by the human senses”.⁶

In view of this concept, it is important to highlight the difference between the material-corporeal document and the electronic document, in relation to the way it is produced, although both require a medium (paper in the case of material documents and reader program of “Portable Document Format” in the case of electronic documents, for example) to be presented. The former translates into something corporeal and palpable, while the latter does not.

It is important to emphasize that a document is not only what is written, that is, a sequence of symbols capable of transmitting ideas, but we can also consider as documents digital files that contain media, recordings, videos, audios and photographs.

However, when it comes to electronic documents, the distrust of the reliability and authenticity of these documents is pointed out, which is much more related to the cultural resistance of the people to replace the materialization of documents by electronic means⁷. This is because, although it is believed that at first only the record of acts and facts in something corporeal is unalterable, or any change in those records would leave traces⁸, with the development of technologies, it is possible to verify the authenticity of electronic documents through the use of programs, guaranteeing the electronic document the same security and reliability of the physical documents.

In order for the electronic document to be considered legally valid in Brazil, it must necessarily allow the identification of the author, the location and the date of its authorship⁹ and there should be a guarantee of security as to the totality of the data created, making changes impossible and the system producing such document must be duly regulated by the State.

In this sense, to understand how to guarantee the security and reliability of electronic documents, it is necessary to analyze, even briefly, the ways in which these documents are constituted and the mechanisms used to guarantee their authenticity.

One of the ways to guarantee the security and reliability of electronic documents is the use of asymmetric cryptography which, in short, translates into a particular way of encrypting using two numbers that relate to each other, generating encrypted information that can only be deciphered with the use of the other. One such information is the so-called public key, which is indecipherable without the use of the other, which is the private key, kept secret by its owner.

With regard to the use of asymmetric cryptography, a differential with respect to the possession of the private key that differentiates the result of the operation is pointed out. If the private key is kept

⁶ A. T. R. MARCANICI, *Certificação Digital*, in *Estudos Avançados de Direito Digital*. Rio de Janeiro: Elsevier, 2014, p.¹⁶.

⁷ P. P. PINHEIRO, *Direito Digital*, 6^a ed., São Paulo: Saraiva, 2016, p. 259.

⁸ A. T. R. MARCANICI, *Certificação Digital*, in *Estudos Avançados de Direito Digital*, p.¹⁶.

⁹ T. TEIXEIRA, *Curso de Direito e Processo Eletrônico: doutrina, jurisprudência e prática*, p.¹⁹⁰.

under the possession of the subject participating in the relation, this operation is classified as electronic signature and replaces the representation of the manifestation of the will of the subject in the act. In addition, it is important to point out that digital signatures will always be different because several documents will be used as variables in cryptography.

The digital signature is conceptualized by Augusto Tavares Rosa Marcacini as:

“the exact result of a numerical operation in which the document itself – always treated as a number by the computer – is one of the factors, together with the private key of the signatory, being possible to check the existence of this logical link with the use of the public key of the pair.”¹⁰

Based on this definition, it is possible to identify a problematic regarding the identification of who the signatory of a certain document is, since what one has access to is only a pair of numbers properly encrypted.

Digital certification is the mechanism used to allow the private key to be linked to a particular person. This occurs with the validation of the digital signature and the linkage of the authorship of the document to a given subject simultaneously. In addition, it can also be defined as an electronic document digitally signed by its issuer, and what differentiates it from the digital signature is the fact that the issuer is necessarily a certifying authority that allows to identify the holder of that public key.

In the scope of the electronic legal proceedings, all documents submitted by the parties must necessarily be digitally signed through a digital certificate issued by a certifying authority or by a signature checked by the Judiciary¹¹, being that the latter is given as a rule through login and password via system.

This certification is intended to publicly attribute the ownership of that document digitally produced to that subject, that is, it is only capable of proving who the issuer of that statement is, without checking the truth of the declaration itself.

In view of this, two different situations arise. The first one, and that is not properly the concern of this article, is that the certification guarantees to the electronically signed document the publicity of the authorship and the indication of eventual alteration of the document. The other situation is that often copies of documents electronically produced in electronic legal proceedings are presented. In the latter case, to the evidence, it would be possible to point out the alteration of that document since it is no longer the original. However, it is necessary to clarify, right away, that it is not this type of change that is intended to be identified through the use of Artificial Intelligence in the verification of these

¹⁰ A. T. R. MARCANICI, *Certificação Digital*, in *Estudos Avançados de Direito Digital*, p. 19.

¹¹ T. TEIXEIRA, *Curso de Direito e Processo Eletrônico: doutrina, jurisprudência e prática*, p. 590.

documents, as will be discussed later, because, for purposes of electronic legal proceedings, they are considered originals¹².

Finally, it should be pointed out that in Brazil there is already the possibility of transferring an original document from paper with the registered digitalization that must be done through a Registry of Deeds and Documents (according to Federal Law no. 6,015/1973)¹³.

B) Electronic Documentary Evidence and the Use of Artificial Intelligence to Verify the Veracity of Electronic Documentary Evidence

The documentary evidence is that which is made through the simple presentation of documents to the records accompanied by the request of the party intending to use it to the Court. As soon as the document has been approved, the documentary evidence is produced¹⁴.

The legal nature of the evidence is the way in which the truth of the facts is ascertained in the Court, the instrument used by the party to demonstrate the truth of the facts and obtain a certain result, and the Brazilian law provides the electronic document with the presumption of veracity¹⁵ (Code of Civil Procedure, arts. 369 and 374 and Civil Code, art. 225).

Also, when it comes to electronic legal proceedings, not only documents produced electronically and submitted to the proceedings are considered as original. Documents that are scanned have the same evidentiary power as the originals, although the originals of these documents must necessarily be preserved until the final decision is reached¹⁶.

Assuming that (i) the electronic documents submitted to the proceedings are considered as originals and (ii) that the scanned documents have the same evidentiary force as originals, the use of artificial intelligence programs to identify possible changes in those documents is extremely necessary to point out fraudulent documents or documents with malicious changes.

Knowing that the burden of proving the invalidity of the evidence falls on the one who alleges it, the use of these technologies is necessary mainly because in the first case we deal with documents that are encrypted and, therefore, it is practically impossible to identify fraud, and in the second case, by the ease of scamming scanned documents.

It is evident that the integrity of the documentary evidence must meet certain technical standards of collection and custody to avoid the questioning of its integrity or the claim that it was obtained through illicit means¹⁷, which is not to be confused with the

¹² T. TEIXEIRA, *Curso de Direito e Processo Eletrônico: doutrina, jurisprudência e prática*, p. 182.

¹³ P. P. PINHEIRO, *Direito Digital*, p. 260.

¹⁴ C. R. DINAMARCO, *Instituições de Direito Processual Civil: volume III*, p. 657.

¹⁵ P. P. PINHEIRO, *Direito Digital*, p. 264.

¹⁶ T. TEIXEIRA, *Curso de Direito e Processo Eletrônico: doutrina, jurisprudência e prática*, p. 182.

¹⁷ P. P. PINHEIRO, *Direito Digital*, p. 262.

questioning of what it intends to prove, but it cannot be forgotten that the parties can adulterate documents to fit them cunningly in technical standards even after violating their integrity.

Because electronic documentary evidence has the presumption of veracity and has for evidential purposes the same evidential force of the originals, either in case of copy of electronic documents or copy of scanned documents, technology is one of the most effective instruments to ensure verification of the integrity and validity of these documents in a timely manner so that they can be questioned before the Judiciary in the course of the legal proceedings.

The use of artificial intelligence in judicial proceedings is capable of providing greater productivity, quality and efficiency for the processing of judicial proceedings and consequently of judicial acts, since a machine has the capacity to perform certain activities at a speed much greater than a person.

However, in addition to the speed of the machine, there are activities that are impossible for humans to perform, such as verifying the authenticity of electronic documents that have encrypted signatures.

It is true that when it comes to the authenticity of electronic documentary evidence we are not dealing solely and exclusively with documents that have been produced by electronic means. Electronic documentary evidence is also considered, those that were digitized and presented to the proceedings by the interested party.

In relation to such evidence, what is considered is that the verification of possible fraud by persons could take a long time, and the need to verify the authenticity of documentary evidence should be effected in the shortest possible time by the fact that the falsity of the evidence must be alleged within a period of fifteen days from the notice to appear in relation to the documents presented in the case, in accordance with the provisions of Article 430 of the Brazilian Code of Civil Procedure.

That is, it is clear that the allegation of falsity of the document cannot be made at any time, if made incidentally to the proceedings. There is a time reasonably delineated by the legal systems, by the prevalence of the principle of reasonable length of proceedings and, therefore, verification of the authenticity of such evidence must be done at the highest possible speed.

In this sense, the use of artificial intelligence is crucial to guarantee the accuracy of the facts with the verification of the documentary evidence, verifying any fraudulent documents used by the parties to substantiate their requests.

It is noteworthy that fraud in these documents is common mainly in lawsuits dealing with mass litigation. This is because, given the large number of proceedings administered by companies or Offices that litigate with repetitive processes, it is expected that the falsity of certain documents will not even be questioned.

Knowing that Brazilian law bears the burden of proving falsity to the party that questions it when it is a false document (article 429,

section I of the Code of Civil Procedure), the use of such programs by the Offices and by the companies that are usually big litigants in the Brazilian judiciary is essential to ensure the truth of the facts. Reaching the truth of the facts through these programs can take place in many forms. Currently there are programs capable of verifying whether the documents have changed, pointing out, for example, whether there has been a change in the digital signature of the document, since although the digital files are essentially changeable without this necessarily resulting in physical traces, any changes promoted in documents protected by asymmetric cryptography would be perceived because there would be the breaking of the mathematical link of the electronic document¹⁸.

The document's invalidity, i.e., the absence or non-existence of authenticity of the electronic document, would be proven by the lack of correspondence between the public key and the private key (the document's own key). Therefore, if the digital signature is valid, this necessarily leads to the fact that whoever produced that signature used the corresponding private key and that the document did not change after the creation of the digital signature, and the inalterability could be, consequently, the security of the submitted document.

Artificial intelligence can also be used to compare the information contained in the documents submitted by the parties as evidence, from personal data to bar codes and invoice launching, comparing it with the customer database in the company, verifying that the information presented in the document were effectively launched by the company.

It can be seen, therefore, that through the use of programs equipped with artificial intelligence to verify the documentary evidence presented in electronic legal proceedings it is possible to guarantee greater security to judicial decisions, since through the use of this technology the truthfulness of the facts intended to be demonstrated by the evidence presented in the case will be perceived, with the indication of its authenticity linked to the affirmation of the inalterability of the evidence.

Ensuring the accuracy of the facts through the perception of electronic documentary evidence is a way of promoting access to justice and veracity of the parties' rights through the Judiciary.

¹⁸ A. T. R. MARCANICI, *Certificação Digital*, in *Estudos Avançados de Direito Digital*, p. ¹⁹.

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