LegalTech in the Light of the Upcoming Artificial Intelligence Act

SUSANA **NAVAS NAVARRO**
Autonomous University of Barcelona

ABSTRACT
The challenges that are posed to Artificial Intelligence (AI) by Law are gradually decreasing as progress is being made in the creation of intelligent tools that are automating legal tasks that were traditionally carried out by the lawyers. In this contribution, the reader is introduced to the so-called Artificial Legal Intelligence (ALI). The paper will begin by presenting the classical computational logic, followed by a discussion of the application of AI in the legal field. Therefore, attention is given to the latest existing LegalTech tools in the market that are alleviating the work of lawyers and enabling access to legal services to a latent market of consumers. This paper will refer to different LegalTech tools such as intermediary online platforms, through which consumers may contact and engage a lawyer, "do-it-yourself" tools, mass processing of precedents and case laws i.e. identical cases (small claims), virtual assistants, robot lawyers and, ultimately, legal design. In section 3, the paper will address how the European Proposal for a Regulation on Artificial Intelligence (AIA) will impact the circulation of LegalTech tools in the market. Finally, it will draw some conclusions about the future of the legal services market.

KEYWORDS
legal services, justice, artificial intelligence, consumers, legaltech

CITATION
Navas Navarro S. 2023. *LegalTech in the Light of the Upcoming Artificial Intelligence Act*, in Brigaglia M., Roversi C. (eds.), *Legal Reasoning and Cognitive Science: Topics and Perspectives*, «Diritto & Questioni pubbliche», Special Publication, August 2023, forthcoming. (Preview published online on 19.07.2023)

DIRITTO & QUESTIONI PUBBLICHE / RECOGNISE
Legal Reasoning and Cognitive Science: Topics and Perspectives
Special Publication / August, 2023 (preview) pp. 1-18

ISSN 1825-0173

LegalTech in the Light of the Upcoming Artificial Intelligence Act

SUSANA NAVAS

1. *Artificial Intelligence and law. Computational models*

1.1. *Preliminary remarks*

Originally, the Artificial intelligence (AI) that was applied to Law, i.e. "*Artificial Legal Intelligence*" (ALI), was mainly focused on the study of the automation of legal reasoning and solving legal problems. Then, these studies were followed by working on computational models for legal argumentation.

GRAY (1997, 3) defined ALI as «the computer simulation of any of the theoretical practical forms of legal reasoning, or the computer simulation of legal services involving the communication of the legal intelligence». The ALI finds its origin in jurimetrics, i.e. the computerization of law. It was suggested in the late 1940s and early 1950s by the American School of Jurimetrics (BOURCIER & CASANOVAS 2003, 64-67).

Two computational models that are applied to legal reasoning to date are as follows:

i) *expert systems based on formal logic* by providing a set of rules
ii) *expert systems for conceptual information retrieval and cognitive computing* (*cognitive AI*):

- Expert information retrieval systems are automated systems that extract relevant legal information based on the association of concepts found in a text or document with other concepts, to solve the legal issue at hand.
- In *cognitive computing*, the algorithm not only selects, sorts, and summarizes the information for the end-users in a convenient fashion, but also explores and interacts with the data in unforeseen ways, providing creative solutions to legal problems. It, therefore, extends the capabilities and features of the existing expert systems by adding various techniques and approaches that fall under the domain of AI. Among those *machine learning* and its sub-area *deep learning* occupy a prominent place.

These two computational models differ based on the information source from which the data is extracted. In expert systems based on formal logic, the rules are fed into the system through binary coding instructions designed by the human engineers, and these rules are introduced into the machine by humans. Whereas in the expert systems dealing with information retrieval and cognitive AI, the system extracts knowledge from legal texts, documents, and jurisprudence on its own and provides a legal solution that explains and argues one or several other relevant cases and, in addition, it also makes predictions (ASHLEY 2017, 12 f., 34).

1.2. *Classical computational logic. Expert systems*

To the extent that legal reasoning and legal argumentation are based on Logic, computational logic can constitute a model that is capable of representing legal rules, inferring rules from case laws, and legal principles from the existing legal texts.

Former studies on the subject were carried out by the pioneers ALLEN (1957, 833-879) and NEWELL, SHAW, and SIMON (1959, 256-264), among others. However, their findings were not implemented in practice. In fact, the first attempt at automation was made in the 1980s concerning the logical representation of legal provisions.

At that time, it was thought that AI would have a major impact on the legal field, but the opposite was observed mainly because *logic-based knowledge and reasoning* were unable to adequately represent legal rules, insofar as they are interpreted differently. They are ambiguous, written as general clauses, use indeterminate legal concepts, or may contain contradictory legal propositions. Logic-based reasoning, on the other hand, focuses on true or false statements with little or no nuisance.

There are also other limitations, such as the existence of different legal systems depending on the jurisdiction, or the fact that inferences that are drawn always possess a certain degree of probability of being true, thus a certain degree of uncertainty always exists. Legal reasoning does not have to be true, rather it must comply with a certain level of probability. Moreover, in Law, we also work with "presumptions", which are difficult to be represented by classical computational logic.

In this light of thoughts, LEENES and LUCIVERO (2014, 193-220, 225) state that «Automating this flexibility in rule compliance is difficult, just as it is difficult to automate social activities and non-written rules that are embedded in drivers' practices». Difficult, yes, but not impossible, as LIEBWALD (2015, 301-314) points out.

Work has been done within the field of classical computational logic on models based on case-based knowledge and reasoning, prediction of legal solutions, and models of legal argumentation.

On the other hand, the information in classical computational logic is entered manually, i.e. the computer engineer or scientist has to add it into the system which is time-consuming and costly. For an expert system based on logical reasoning to be efficient, the focus should be put on a specific and limited area of law (e. g. product liability).

Classical computational logic can hardly select arguments for or against a certain legal proposition to deliver the best solution to a legal problem. Also, it must be kept in mind that the inference system changes when information is added, modified, or becomes invalid.

To provide the best possible solution, "something more" is needed. This "something more" is what scientists have been working on in recent decades and intensively in recent years. Efforts have been devoted to the study of computational models for legal argumentation. However, extensive further research still ought to be done in this field (OSKAMP & LAURITSEN 2002, 227-236; ASHLEY 2017, 129).

The development of a "fuzzy logic" may contribute to overcoming the barrier that formal logic presents. In this case, hermeneutics, or the science that studies the interpretation of legal rules should be taken into account to develop an AI system that is capable of formalizing and selecting the most appropriate interpretation criteria so that the application of a rule could generate an efficient and verifiable result. Nevertheless, systems with fuzzy logic remain unfinished and unreliable so far. Perhaps, analyzing how concepts are formed and ideas are associated in the human brain will allow progress to be made towards its computerization[1].

Additionally, a rule must be presented in an easily comprehensible fashion to the common person and the automation of legal reasoning using formal logic led to outcomes that were hard to understand for the average citizen and only accessible by the lawyer or another expert in the legal

[1] See in this regard the paper drafted by SCHORLEMMER et al., 2016.

field. This was a major obstacle to "automation". Moreover, authorities have been very reluctant to automate legal reasoning and the automated drafting of legal texts (BRANTING 2017, 5-27).

Although the classic computational model is superseded, it is still being applied in certain contexts. For example, the *Center for Computer-Assisted Legal Instruction and IIT Chicago-Kent College of Law's Center for Access to Justice & Technology* has a web-based system that helps litigants who don't have a legal representative or counselor draft and file a document before the court to sue or repel a legal action (ASHLEY 2017, 351-354).

1.3. *Artificial intelligence applications*

In a system of knowledge based on AI[2], the aim is to draw inferences from the analysis of collections of legal documents, whether they are written legal rules, judgments, contracts, public documents, or any other legal data. It also serves to find the best criterion for interpreting a rule or a legal term based on the analysis of multiple cases. The development of this new approach coincides with the development of statistical analysis techniques and the retrieval of correlations or patterns from a huge volume of data (*Big Data*), comprising legal data (BRANTING 2017, 5-27).

These computational models are working with i) presentation of legal concepts through ontologies and taxonomies; ii) retrieval of information; iii) learning from legal texts; iv) extraction or summary of information; v) extraction, a summary of legal arguments and predictions.

The three legal domains in which those models have been applied are:

i) Case law, an area that is particularly relevant for litigation. AI applications can provide important assistance to judges and, in general, to courts insofar as they can identify factual assumptions and extract principles from court decisions. In the Common Law countries, this application of AI is relevant because of the importance of the precedents, although it may offer advantages to judges and magistrates in Civil Law countries as well. Likewise, for argumentation, the analysis of the case laws enables the AI system to detect and extract certain arguments that are repeated by courts over time in cases of the same kind in a much faster and more reliable way than the "handwork" performed by legal experts[3].

For lawyers, the principles extracted from case analysis could be used for providing more accurate advice to clients and avoiding filing needless lawsuits. In this regard, the AI system could be considered more of an «auxiliary» to the legal practitioner than a "co-worker". Recently, the use of so-called "robo advisors" and "robot lawyers" indicates the possibility of legal advisors being replaced by AI in the future for legal counseling in low complexity cases[4]. Whether this automation is desirable at a corporate level or there are spurious interests involved, that is often the case, is another matter.

Concerning this area, perhaps the ongoing studies on *personalized automated assessments* could serve as a basis for automating part of the intellectual task of judges, for instance, in corruption or mass tort cases (GUTIÉRREZ et al. 2016).

ii) Document analysis. This field concerns the retrieval of information from a large volume of documents (e.g. identification of certain entities, lawsuits, quoted legal texts, and so on), the automated filling of case summaries, court decisions or legal documents, the constant updating of legal information, automated completion of contract forms or even typing court decisions (SOLAR CAYÓN 2019, 83 ff.). Nowadays, much of the interest in AI is focused on designing and

[2] I should forward to the AI definition presented in section 3.

[3] SHULAYEVA et al. 2017, 107-126. These authors discuss developments in automation with respect to case law, extracting legal arguments by distinguishing the *ratio decidendi* from the *obiter dictum*.

[4] I will refer to the LegalTech tools specifically aimed at consumers later on.

implementing systems that could quickly and effectively analyze large amounts of data.

iii)Analysis, drafting and auditing of legal texts, such as codes, acts, regulations, or ordinances. The rules of the legal system are systematically intertwined. In many cases, the meaning of a rule can only be fully understood when it is interpreted in the light of other rules that are part of the general or sectoral body of law in question. AI can be applied to the analysis of this legal system by relating rules to others, providing information about the best wording of a legal rule, and highlighting the influence or importance of a certain rule in the decision of certain cases by the courts. It also allows considering if the regulation of a specific case can be applied to another (e.g. the application of the rule of civil liability for the use of motor vehicles to the use of autonomous vehicles), or to identify rules that should be amended to maintain the coherence of the system, and so on.

In the particular case of legal drafting, the AI has been helping efficiently in carrying out various tasks such as searching for legal texts that may be relevant to a new rule that is to be drafted, generating working documents, linking of legal provisions or topics, numbering rules, giving written wording to the rule for edition, searching for legal terms or making up complex lists of legal information, etc.

Some of these tasks can take place in a phase before the drafting of the legal regulation since by employing AI it can be analyzed whether or not there is a need for this regulation, its potential applicability and economic impact. Once the regulation has been drafted and entered into force, the AI system may supervise its current application, any requirements for improvement, and analyze where it is necessary to calculate the economic cost of the application of the regulation in question. In short, AI can be used for auditing and quality control of regulations (see also BOURCIER & CASANOVAS 2003, 104-110).

Several AI systems already exist in the field of law. For example, IBM's Watson technology is used by the system called *Ross Intelligence* and it was created by a group of students at the University of Toronto. Also, its first cousin, *Debater*, who is also from IBM, serves the primary function of extracting legal arguments from a large database. Other systems used in the legal area are *Lex Machina* and *Ravel*. The former was acquired by LexisNexis and it makes predictions based on cases in patent and intellectual property law. It is based on the analysis of litigants' behavior. The second system that is mentioned was created by *Stanford Law School* students—joined by the *Harvard Law School* library—to scan a large portion of American case laws so that *Ravel* could visually relate a case with a legal concept.

These systems also include machine learning capabilities to predict outcomes. In this regard, they are constantly updating information while processing, learning from the environment, and steadily adjusting their results accordingly.

Moreover, these systems are based on an open-source architecture, which means that other intelligent tools applicable to the legal field could more easily be developed in the future. In the next section, the paper will focus on these "LegalTech" tools.

2. *Legaltech Ecosystem for Consumers*

2.1. *LegalTech and access to justice*

The term "LegalTech"—and what it stands for—is frequently used in our modern times among legal practitioners, particularly, lawyers[5]. It is described as applying new technologies by

[5] See, for instance, the Report *Future Lawyering 2020: emerging business areas: identifying opportunities* of the General

lawyers to provide their legal services for the tasks that are specifically performed by them even though the application of these tools in the field of justice is already taking place[6]. For some time now, legal practitioners have been using computer programs, sophisticated databases, and communications applications via *smartphones* (e.g., *WhatsApp* or email) that have eased their workload. They are, of course, aware of such tools.

Currently, the tech industry is going a step further by incorporating high-level technology into lawyers' daily work. The different techniques and systems that fall under the term "AI" will not only facilitate the work of the lawyers as a human-machine collaboration develops but will also carry out autonomously some of the activities which require human intervention.[7] Feasible scenarios include case analysis (e.g. e-discovery, big data analytics), drafting of legal documents such as lawsuits, automated drafting of contracts, or "legal" robots that provide legal information to clients.

As it is highlighted above, further research is being done on computational models about legal reasoning that allows the retrieval of legal arguments directly from legal materials (rules, judgments, journal articles,...). It is done so that predictions can be made about the outcome of, judicial decisions, complex legal questions are answered, or make decisions with legal relevance[8].

Based on the classification suggested by SOLAR CAYÓN (2019), the automation of legal services through AI-based tools can be classified into the following groups: i) legal research related to the tasks which require research, selection, and analysis of legal information; ii) compliance; iii) legal due diligence; iv) predictive analytics, breaking down the behavior of judges and courts to better gauge the success or failure rate of a lawsuit v) e-discovery or selection of evidentiary material; vi) automated production of personalized legal documents by applications; vi) online dispute resolution (ODR).

ROSS, inspired by IBM's Watson supercomputer, is capable of analyzing a huge amount of legal material within seconds and it can alert and update lawyers about any new significant information on their cases. Initially focused on insolvency, ROSS has been applied to new areas. ROSS uses a machine-learning AI-based technique.

Although, in the beginning, these collective set of technological tools, which can be directly used by consumers, were using the umbrella term "LegalTech"[9], the truth is that the expression "LawTech" has also been employed to draw clear differentiation between those tools that are designed for consumers and law firms separately (BUES & MATTHAEI 2017, 89-109). Between these two expressions, "LegalTech" and "LawTech", the former is winning the battle to refer to AI systems applied by lawyers (SALMERÓN-MANZANO 2021, 24), whether in B2B or B2C relationships, by justice (ENGELMANN et al., 2021, 317 ff.) and used by consumers. With particular regard to LegalTech tools in B2C relationships, it should be stressed that the consumer is not just a "client"[10] but a potential user of automated legal services who has access to legal information for a modest fee or in some cases is free of charge.

For each case, these automated legal services employ digital services and content. Consumers usually prefer to use online legal services because they are cost-effective. The digital element plays a very significant role in convincing consumers "to buy" such services so much so that if

Council of Spanish Lawyers published by Wolters Kluwer. Available at: https://www.abogacia.es/2019/05/10/ informe-abogacia-futura-2020-areas-de-negocio-emergente-identificar-oportunidades/.

6 NIEVA FENOLL 2018; BEN-ARI et al. 2017, 35. More recently, see the detailed study by BARONA VILAR 2021, 344 ff.

7 WAGNER 2018, 2-4; BARRIO ANDRÉS 2019, 37-66.

8 In this respect, reference should be made to the excellent monograph written by ASHLEY 2017, 10 ff. On these issues, see: NAVAS NAVARRO 2017, 24 ff.

9 Indeed, this vague term seems to include any technology applied in the field of Law, BECK 2019, 648.

10 The "client" would be the person (natural or legal) who requests a specific legal service from an expert, i.e., a "personalized" legal service (e.g., advice, handling of a specific case, and so on).

no such services are offered online they do not seek legal advice[11].

These consumers represent a "latent" (SUSSKIND R. & SUSSKIND D. 2016, 127) or even "non-existent" market (SOLAR CAYÓN 2019, 99) for the legal services sector. They are citizens who, because of their low income, cannot afford lawyers' fees. They are unable to get legal aid or make applications for small claims that they think are not affordable to pursue. Furthermore, consumers lack the basic skills or expertise required for legal drafting of a claim and filing it before the competent authority for cases of smaller claims as it is mentioned before[12].

Legal services provided online by tech companies (start-ups) are a particularly attractive alternative to traditional law firms for consumers because these tools are cost-effective for them[13]. Thus, those companies provide automated legal services or access to cloud services where consumers can fill customizable applications with or without the assistance of a chatbot. Such tasks are currently performed by legal practitioners.

2.2. *Technological tools available to consumers*

This section will discuss some of the legal tools that already exist in the "legal ecosystem" (GONZÁLEZ-ESPEJO GARCÍA 2019, 345 ff.), and they are accessible to the consumers. The saying in the finance sector "We need banking services, but not always banks" is rapidly becoming true for the automation of legal services as well, that is, "We need legal services, but not always lawyers".

Any research that has analysed smart technologies used in the legal field mentions a myriad of applications and tools that are directly accessible to consumers[14]. Using their PC, tablet, or smartphone (BRESCIA et al. 2015, 578-579), consumers can access online applications that can review contracts, small money claims from an airline, legal advice from bots, interact with virtual assistants, use freelance websites to hire legal experts, etc. Five scenarios will be further exposed in detail below. Although in theory, this paper presents them as independent technological tools, they produce "legal products" for the end-users when combined i.e. legal drafting, legal advice, intermediation, etc. Thus, the automated process of claiming some amount of money may be preceded by a chat with a virtual assistant who can assist the consumers with information about their rights.

High-profile AI systems, such as *Ross Intelligence,* that can process a large amount of data and are capable of making predictions about case decisions and judgments are only used by limited law firms (WAGNER 2018, 31 ff.). They are not available to consumers yet, but they will be in the future (SUSSKIND R. & SUSSKIND D. 2016, 41-43).

2.2.1. *Legal services intermediation platforms*

Intermediation platforms in the collaborative economy have also reached the area of legal practice. Nowadays, lawyers and their firms are no longer offering their services via law websites but they are also available on online platforms similar to *Airbnb*, *Uber,* or *Peopleperhour*.

[11] In the study developed in the United Kingdom between 2011 and 2013, in which there was a panel of consumers and a panel of experts (practitioners and academics) on the legal market and, specifically, on the legal education market, it is highlighted, based on the different interviews and surveys carried out, that the connection between accessibility, technology and cost-benefit determines that consumers clearly opt for the provision of online services for low-cost claims (LETR 2013, 99).

[12] As known, these claims can reach a maximum amount of 5000 Euros, if one wants to start the European procedure established by Regulation (EC) Nr. 861/2007 of the European Parliament and of the Council of 11 July 2007 establishing a European Small Claims Procedure (OJEU L 199, 31.7.2007).

[13] In this regard, it is worth to quote the Report commissioned by the American Bar Association (ABA), which reviews the state of the legal profession and the legal services market, highlighting, in the first part of the study, the difficulties that certain groups of the population have in accessing justice in the USA (ABA 2016, 10-19).

[14] Again, I should quote the study drafted by BENNETT et al. 2018, 22 ff.

Such platforms not only facilitate the relationship between lawyer and client through contract but also rank them based on the quality of their services. These platforms feature a range of law firms and have tools that can filter out lawyers with relevant expertise to match a client's needs. They also facilitate the clients in making the hiring decision by showing availability, response time, and rate of legal experts. Similarly, the consumer has access to the reviews left by other clients before hiring a certain professional (COUNCIL OF BARS & LAW SOCIETIES OF EUROPE 2018). The *Digital Services Act*[15] and *Digital Markets Act*[16] set out a range of obligations for online intermediation platforms that will also apply to the ones this paper is discussing.

The terms and conditions of use of these intermediation platforms set forth a disclaimer informing that they provide just legal information instead of legal advice. No contractual relationship between the lawyer and the client is generated by the fact that the former will answer online, where appropriate, some of the questions asked by the last.

The company running the platform is usually a technological *start-up*, instead of a legal services firm. Some global platforms for lawyers are *Rocket Lawyer, Anwalt.de, FlatLaw, Legalzoom, Avvo, Got.Law,* etc. The structure of these platforms is triangular ("two-sided market")[17] as long as they remain merely intermediaries. In some cases, consumers remunerate the performance of their services[18]. When platforms set conditions about the lawyer-client relationship, such as fees or working hours, they become contractual parties vis-à-vis the end-user and an employer vis-à-vis the lawyer, whose services the end-user has purchased. Hence, the doctrine emanating from the *leading case* in Europe regarding online intermediary platforms can be applied here[19]. As known, this is the case of Uber against the professional association Elite Taxis, which gave rise to the decision of the Court of Justice of the European Union on 20 December 2017[20].

The other issue can be the potential conflict between the use of these platforms by lawyers and the observance of legal ethics (COUNCIL OF BARS & LAW SOCIETIES OF EUROPE 2018, 7 ff.). About this, it should be noted that legal ethics are applied to lawyers only. In the new LegalTech scenario, it makes sense to refer to regulatory objectives in general in which a whole series of principles are taken into account, such as the protection of consumers and end-users.

2.2.2. *"Do-it-yourself" tools: Drafting of legal documents*

Several legal service providers allow consumers to download certain tools directly from their websites or a cloud space to draft their documents i.e. will deeds, sale deeds, contracts, agreements, lawsuits, etc. with or without the help of a virtual assistant as it is mentioned before (LÓPEZ-LAPUENTE GUTIÉRREZ & LAMELA DOMÍNGUEZ 2019, 234 ff.).

Those applications employ an AI system based on a decision tree that is designed of a series of questions i.e. filters that can narrow down the search by use of special keywords entered by the end-user. The programs designed for end-users are often user-friendly (BRESCIA et al. 2015, 572-573).

These systems employ natural language processing and machine learning and, although they are not superseding human legal advice yet, as far as they become more and more sophisticated, such replacement will be certain.

[15] COM(2020) 825 final.
[16] COM(2020) 842 final.
[17] ROCHET & TIROLE 2003, 1029; ARMSTRONG 2006, 668-691.
[18] This would be the case of "referral websites for lawyers" (COUNCIL OF BARS & LAW SOCIETIES OF EUROPE 2018, 6).
[19] Expanding this doctrine to similar cases is suggested by HACKER 2018, 80-96.
[20] C-434/15.

2.2.3. *Mass processing of identical cases. Small claims*

Another array of tools directly accessed on the website of a tech company by the end-user deals with small money claims related to flight delays, cancellations, lost luggage, fines in public car parks, delays in trains, etc. (BENNETT et al. 2018, Annex A).

On these websites, the end-user answers a series of questions, via a chatbot, and delivers information about their case similar to hundreds of others. Through an automated process, a document is drafted and signed by the user, authorizing the company to claim, on their behalf, to release the funds that are due. The claim can later be defended by a lawyer for the consumer in court, if necessary when no agreement is reached between parties. It is a remedy of last resort. Therefore, the websites not only offer legal services but also provide the end-users with digital legal content i.e. downloadable customized legal documents to serve their needs.

2.2.4. *From virtual assistants and chatbots to roboadvisors*

Both virtual assistants and chatbots are AI systems that permit humans to have "smart" conversations with robots. They can listen, understand, reason (*cognitive chatbot*) and answer questions (e.g. ChatGPT). They process natural language and usually operate with an AI system based on machine learning and decision trees (SOLANO GADEA 2019, 153 ff.). In the legal field, they can perform a variety of functions ranging from customer call centers to managing the company's operations and providing legal advice.

The end-user can interact with these assistants via smartphone applications, or through a chatbot. In this context, the voice is becoming increasingly important as some of these AI systems process natural language, giving rise to discriminatory biases in particular cases.

On the other hand, personal assistants such as Alexa are not unthinkable but those which can solve legal questions posed by consumers will be embedded intangible goods, which can be purchased both in physical and online shops[21].

2.2.5. *Legal Design*

Several technological tools are devoted to what is known as Legal Design, that is, the use of design techniques in indoor homes, architecture, or fashion but it is for drafting more intelligible contracts than the traditional "complicated" contracts.

Legal Design uses images in place of words to exploit the element of visualization. The "colorfulness" and "showiness" of these contracts are considered "more transparent" than the written expression (!). The tools for *Legal Design,* as well as the "product" that is generated with them, may just easily be accessed online.

The legal design of contracts raises many questions. One question deals with its interpretation as the hermeneutic criteria established in the legal system can hardly help to find the true meaning or purpose intended in the "visual" contract. To achieve the most righteous interpretation of such contracts, resources should be borrowed from other disciplines (e.g., psychology, pedagogy, education)[22], or new rules should be drafted that could better catch the parties' wills expressed by images or audios. The other issue relates to the criteria for determining what constitutes unfair clauses in such contracts.

It might be possible to interpret the images that represent the content of a contract or to determine that a clause is unfair by utilizing AI systems. However, this will end the supposed

[21] This is the case of the *RATIS chatbot* designed by German scientists (TIMMERMANN 2020, 150 ff), which is not for sale.

[22] BRUSCHWING 2021, 219-220.

transparency and easy understanding that is offered with Legal design causing non-transparency i.e. the opacity of the AI system applied. Paradoxically, in search of transparency, we will find opacity in its place.

Legal design, which might be extended to the design of legal norms, could drive quite worrying social engineering work (MAU 2019, 99 ff.) because of the extremely simplistic vision of the reality that this technique affords. The metric society in which we live and the personalization resulting from the use of social networks are also key contributors to such a new version of our real life.

Despite that, in the legal system, there are already some incipient examples of this school of thought, such as the icons used to highlight the level of risk for financial products. A potential implementation of the design in question in the legal system can be seen in Art. 12 para.1 and para. 7 of the GDPR[23], which refers to transparency, communication, and information of the data subject's rights regarding the processing of personal data. Art. 12 para. 1 states, among other aspects, that: «Information shall be provided in writing, or by other means, including, where appropriate, by electronic means». And Art. 12.7 highlights that: «the information to be provided to data subjects pursuant to Articles 13 and 14 may be provided in combination with standardized icons in order to give in an easily visible, intelligible and clearly legible manner a meaningful overview of the intended processing. Where the icons are presented electronically that shall be machine-readable». These rules are potentially in favor of applying design thinking and, specifically, visual design to the information provided to individuals (BRUSCHWING 2020, 142-160).

As mentioned above, the (new) design of contracts may raise important questions. But it is especially relevant for a person with a particular disability. A certain design of the document in which visual tools are used to support disabled people to keep them informed and help them understand the given information for gaining their express consent about the matters that can affect them more as adat subject should be considered.

Moreover, such legal design could be considered "universal" in terms of the Convention on the Rights of Persons with Disabilities signed in New York on 13 December 2006[24], which defines it, in Art. 2, as: «the design of products, environments, programmes and services to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design». To this list, which is not exhaustive, should be added the design of documents in which legally relevant information is presented.

3. *The Application of the European Proposal for a Regulation on Artificial Intelligence (AIA) to the Legaltech Ecosystem*

How could the European Proposal for a Regulation on Artificial Intelligence (AIA), which was published on 21 April 2021[25] impact the automation of legal services and, particularly, LegalTech tools in B2C relationships?

Primary, it should be noted that the definition of AI as amended by the compromise text has a narrower scope compared to the original text of the AIA[26]. It means more traditional

[23] Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data and repealing Directive 95/46/EC (General Data Protection Regulation), OJEU L 119/1, 4.5.2016. Quoted as «GDPR».

[24] Available on: https://www.un.org/development/desa/disabilities/.

[25] The review of the AIA has led to a compromise text made public by the end of the same year (29 November 2021). Thus, the provisions I am going to quote in this section correspond to this compromise text [Presidency compromise text. Interinstitutional File: 2021/0106(COD)].

[26] Art. 3 (1): «'artificial intelligence system' (AI system) means a system that:
(i) receives machine and/or human-based data and inputs,

software systems and programming are excluded[27]. Yet, according to the list of techniques and approaches stated in Annex I of the AIA, which have embraced the term "AI", a broad spectrum of LegalTech applications will fall under it. Nevertheless, both the Committee on Legal Affairs and the Committee on Industry, Research and Energy' draft opinions suggest limiting the scope of application of the AiA to those AI systems that use the technique of machine learning and deep learning[28]. In this vein, both draft opinions embrace the AI definition expressed by the OECD under which «an AI system is a machine-based system that can, for a given set of human-defined objectives, make predictions, recommendations, or decisions influencing real or virtual environments. AI systems are designed to operate with varying levels of autonomy»[29]. According to the first Draft opinion mentioned Annex I of the AIA will refer just to: «Machine learning *and optimization* approaches, including *but not limited to evolutionary computing as well as* supervised, unsupervised and reinforcement learning, using a wide variety of methods including deep learning»[30].

3.1. *Prohibited practices*

Art. 5 para 1 of the AIA gives a list of prohibited practices. For the technological tools at stake, the following are particularly relevant:

i) the placing on the market, putting into service or use of an AI system that deploys subliminal techniques beyond a person's consciousness with the objective to or the effect of materially distorting a person's behavior in a manner that causes or is reasonably likely to cause that person or another person physical or psychological harm (lit. a)

ii) the placing on the market, putting into service or use of an AI system that exploits any of the vulnerabilities of a specific group of persons due to their age, disability, or social or economic situation, with the objective to or the effect of materially distorting the behavior of a person pertaining to that group in a manner that causes or is reasonably likely to cause that person or another person physical or psychological harm (lit. b).

(ii) infers how to achieve a given set of human-defined objectives using learning, reasoning or modelling implemented with the techniques and approaches listed in Annex I, and
(iii) generates outputs in the form of content (generative AI systems), predictions, recommendations or decisions, which influence the environments it interacts with».

[27] Recital nr. 6 of the Compromise text of AIA made public on 29 November 2021.

[28] Draft opinion of the Committee on Legal Affairs for the Committee on the Internal Market and Consumer Protection and the Committee on Civil Liberties, Justice and Home Affairs on the proposal for a regulation of the European Parliament and of the Council laying down harmonised rules on artificial intelligence (Artificial Intelligence Act) and amending certain Union Legislative Acts (COM(2021)0206 – C9-0146/2021 – 2021/0106(COD). Rapporteur: Axel Voss, 2.3.2022; Draft opinion of the Committee on Industry, Research and Energy for the Committee on the Internal Market and Consumer Protection and the Committee on Civil Liberties, Justice and Home Affairs on the proposal for a regulation of the European Parliament and of the Council laying down harmonised rules on artificial intelligence (Artificial Intelligence Act) and amending certain Union legislative acts (COM(2021)0206 – C9-0146/2021 –2021/0106(COD). Rapporteur: Eva Maydell, 3.3.2022.

[29] OECD Legal instruments, *Recommendations of the Council of Artificial Intelligence*, adopted on 22.05.2019, C(2019)34 C/MIN(2019)3/FINAL, Available on: https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0449.

[30] This amendment justification lies on «the justification for a lex specialis on AI by the Commission was based on the specific characteristics, such as autonomy and opacity, of (rather new) machine-learning and data-driven AI applications. It was argued that they are so far not adequately covered by existing laws. Their existence would therefore demand new laws. Symbolic AI (dominant from the 1950s-90s) is however already covered by numerous EU and national laws. Point (b) and (c) fall exactly in this category. It is therefore not justified to address them - again - within the AI Act. Their inclusion would be contradictory to the impact assessment as well as better regulation principles» (Amendment nr. 285, Draft opinion of the Committee on Legal Affairs).

iii) the placing on the market, putting into service or use of AI systems for the evaluation or classification of natural persons over a certain period of time based on their social behavior or known or predicted personal or personality characteristics, with the social score leading to either or both of the following:

(i) Detrimental or unfavorable treatment of certain natural persons or groups thereof in social contexts which are unrelated to the contexts in which the data was originally generated or collected
(ii) Detrimental or unfavorable treatment of certain natural persons or groups thereof that is unjustified or disproportionate to their social behavior or its gravity (lit. c).

In this respect, the compromise text of the AIA is expanding the scope of Art. 5 by adding private individuals to its original scope which was previously applied exclusively to the public authorities.

Out of the variety of smart legal tools designed for the end-users, only those which involve profiling, ranking, or rating people by attributing a score should be regarded as prohibited practices if they breach fundamental rights or have the tendency to manipulate vulnerabilities (ENGELMANN et al. 2021, 321). For instance, this could be the case of online platforms on which lawyers offer services[31], websites that are offering users downloadable "do-it-yourself tools" (LÓPEZ-LAPUENTE GUTIÉRREZ & LAMELA DOMÍNGUEZ 2019, 234 ff.) or in the case of automated small claims services (BENNETT et al. 2018, Annex A).

In any case, other legal bodies should be applied, such as the GDPR and the Unfair Commercial Practices Directive[32]. On the other hand, the upcoming Digital Markets Act will establish limitations and prohibitions concerning intermediaries' platforms that will curb the recombination of data from different sources, which indirectly will lead to the decreasing, or even elimination, of profiling, scoring, and online behavioral advertising.

3.2. *High-risk LegalTech tools*

Can some of the technological tools - designed for end-users be considered "high risk" (Art. 6)? On one hand, the AIA contemplates AI systems that are safety components of other goods. On the other hand, it observes the AI systems themselves; also known as "*stand-alone AI systems*", that could be contemplated as products or systems as stated by the Draft Opinion of the Committee on the Industry, Research and Energy[33]. The LegalTech tools this contribution is dealing with is the latter, that is, the stand-alone AI system.

For a system to be considered a "high risk" AI system, the conditions to be met are different depending if we are dealing with an AI system, which is a safety component of a product or system or a stand-alone-AI system. In the first case, the system must be covered by the legislation that is harmonized with the AIA («*New Legislative Framework*», NLF), which is listed in Annex II. The so-called «New Legislative Framework» is composed of the following legal texts: Regulation (EC) Nr. 765/2008/EC of the European Parliament and of the Council of

[31] COUNCIL OF BARS & LAW SOCIETIES OF EUROPE 2018. Some global platforms for lawyers are Rocket Lawyer, Anwalt.de, FlatLaw, Legalzoom, Avvo and Got.Law.

[32] Consolidated text: Directive 2005/29/EC of the European Parliament and of the Council of 11 May 2005 concerning unfair business-to-consumer commercial practices in the internal market and amending Council Directive 84/450/EEC, Directives 97/7/EC, 98/27/EC and 2002/65/EC of the European Parliament and of the Council and Regulation (EC) No 2006/2004 of the European Parliament and of the Council (Unfair Commercial Practices Directive) (Text with EEA relevance). Available on: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02005L0029-20220528&from=EN.

[33] Amendment nr. 15.

9 July 2008, setting out the requirements for accreditation and market surveillance relating to the marketing of products[34]; Decision Nr. 768/2008/EC of the European Parliament and of the Council of 9 July 2008 on a common framework for the marketing of products[35] and Regulation (EU) 2019/1020 of the European Parliament and of the Council of 20 June 2019 on market surveillance and product conformity and amending Directive 2004/42/EC and Regulations (EC) Nr. 765/2008 and (EU) Nr. 305/2011[36]. Based on this regulatory framework, a set of rules (Directives and Regulations) have been adapted and thus, have become part of the NLF. While others are either in the revision process or are likely to begin soon, i.e. those quoted by Annex II. Moreover, the system is required to conform to the legislation by a third party before being placed on the market.

In addition, there is a whole range of harmonized[37] standards that are published in the OJEU[38].

In case of stand-alone-AI systems, Art. 6 para. 3 AIA[39] warns that these high-risk systems must be applied to specific areas that are expressly mentioned in Annex III. It should keep in mind that in addition to the technological tools applied in legal practice, other tech tools also exist, as I have mentioned before, which are intended to be used throughout the judicial process and that can be grouped under the term "e-justice" or "smart justice" (SUSSKIND R. 2019, 253 ff; BARONA VILAR 2021, 610 ff.).

The last domain mentioned in Annex III, number 8, concerns «the administration of justice and the democratic process» and includes «AI systems intended to be used by a judicial authority or on their behalf for interpreting facts or the law for applying the law to a concrete set of facts». Therefore, intelligent tools that are currently applied by legal practitioners would be left out. It does not seem that the area of «the administration of justice and democratic processes» could be interpreted so broadly as to encompass the automated "legal products" that are being discussed here[40]. Thus, they can not be considered "high-risk" systems under the scope of the discussion topic of this AIA.

However, as long as these systems involve machine learning and natural language processing, there is always a risk of biases and lack of transparency[41]. Of course, if the system is not fed with quality data, it could, for example, display racial, ethnic, or cultural biases by denying access to justice to a certain social group or make "unfair" decisions. The impact of such types of LegalTech tools on the fundamental rights of due process of law, right to defense, right to trial, among others, asserts that such tools should be classified as "high-risk" or be categorized as prohibited practices (ENGELMANN et al. 2021, 318 ff; NIEVA FENOLL 2018, 127 ff.). Based on this observation, it is recommended that Annex III should include not only the tech tools intended for court use but also the tools that are used in the legal practice by lawyers and law firms or those made by the tech companies for end-users (e.g. large generative AI models).

To partially avoid situations where it is uncertain whether an AI system would affect a specific area and thereby make it a high risk, the Draft Opinion of the Committee on Industry, Research and Energy suggested the introduction of a new rule; «In case there is uncertainty

[34] OJEU L 2018/30, 13.08.2008.
[35] OJEU L 218/82, 13.08.2008.
[36] OJEU L 169, 25.06.2019.
[37] More on this matter is available on: https://ec.europa.eu/growth/single-market/european-standards/vademecum_en.
[38] BLUE GUIDE PUBLICATION, (nt 75) 4.1.2.2.
[39] Axel Voss 2.3.2022.
[40] Nonetheless, it should be expanded in order to embrace ODR.
[41] The absolute absence of errors is no possible. Therefore, Art. 10 para. 3 AIA has been amended by the compromise text, made public on 13. January 2022, in order to make clear this concern. The proposed text considers that «Training, validation and testing data sets shall be relevant, representative, and to the best extent possible, free of errors and complete» [Interinstitutional File: 2021/0106(COD)].

over the AI system's classification, the provider shall deem the AI system high-risk if its use or application poses a risk of harm to the health and safety or a risk of adverse impact on fundamental rights of users, as outlined in Article 7(2)»[42]. Accordingly, not all of the LegalTech tools could be "high risk" despite their absence in Annex III.

The requirements that a high-risk AI system must fulfill in accordance with its specific puropose are the following: a risk management system (Art. 9); if the system uses machine learning, data sets must meet a range of quality requirements (Art. 10) to be considered as high quality. This can significantly reduce the number of errors and discriminatory biases; technical specifications must be documented (Art. 11); a mechanism to record the system motions must be implemented (Art. 12); transparent information for the users (Art. 13), who are not consumers but those who own and/or control the system (Art. 3 para. 4); human supervision (Art. 14); and accuracy, robustness, and cybersecurity (Art. 15).

3.3. *Low-risk LegalTech tools*

With regard to low-risk AI systems, which embraced the "limited" and "residual" risk AI systems regulated by the AIA, we must take into account, on the one hand, Art. 52, which states a duty of transparency about "certain" AI systems when they are interacting with end-users. In such cases, the end-users should be informed by the service provider that they are interacting with an AI system and not a person unless it is an obvious circumstance i.e. virtual assistant or a roboadvisor.

On the other hand, Art. 69 AIA deals with the AI systems that present "minimal or residual risk" and seeks to promote the development of codes of conduct with the clear intention that providers voluntarily comply with the requirements that are set out in Title III, Chapter 2 AIA and they have been referred earlier in this work.

Obviously, some of the intelligent legal tools that are based on decision trees (e. g. answers and questions), pose a low risk for the consumers. Nonetheless, it could be thinkable that some of these LegalTech tools embrace functionalities, some of them lead to qualify the system as "high risk" while others as "low risk" (AIDA 2022). Such hybrid AI systems are not brought under the umbrella of AIA. Therefore, there is uncertainty about the set of rules applicable to such AI systems. This gap should be bridged through the parliamentary drafting process.

In addition, the purpose of an AI system must also be taken into account. Indeed, there is a difference between a "general purpose" AI system and a "specific purpose" (intended purpose) AI system. The first comprises AI systems that are capable of executing general functions established in Recital nr. 70a added by the compromise text of 29 November 2021, such as voice or image recognition, pattern detection, video generation, translations, questions, answers, etc. On the contrary, the second refers to the AI systems that have an intended use. It is specified by the provider or by whoever introduces or puts it into use or service in the market and determines its terms and circumstances of use and creates instructions. This distinction is relevant to the extent that if the AI system is a general-purpose system, it should not meet the requirements required by the AIA. Whereas they will be mandatory for the intended purpose of AI systems (new Art. 52a). From the examples given by the compromise text, it can be deduced that only AI systems with minimal and residual risk are taken into consideration. It seems unlikely that a high-risk general-purpose AI system would not be complying with the requirements of the AIA just because it is considered a "general" purpose AI system. In short, the relationship between the classification of the type of an AI system based on the degree of risk it poses and its purpose is not as clear as it is desired to be as evidenced by the last AIA's version of the Council concerning large generative AI models.

[42] Amendment nr. 33.

4. *Conclusions*

The use of LegalTech tools to provide automated "legal information" to consumers strengthens consumer protection insofar as large segments of the population will have access to cost-effective legal services. It enables access to justice or other alternative dispute resolution mechanisms which, without the existence of "smart" tools, is expensive or out of reach for most people. The legal sector transformation is determining, as it is stated at the beginning of this paper, that while "legal services" are obviously a necessity, lawyers are not always needed, to the extent that those services could be provided by other market actors with the same or higher quality and efficiency (SANDEFUR 2019, 49-55.). However, it must be kept in mind that legal tech tools of the high-risk AI systems would be slow to implement.

This new legal practice scenario must be encouraged and initiated as soon as possible by liberalizing legal markets and allowing alternative business structures i.e. in the UK or Germany to participate. This, in turn, will provoke the review of the general statutes of the legal profession and the codes of ethics. It is important to add the following ethical aspects in the statute or the code of ethics:

(i) The lawyer's duty of long learning education, in particular, regarding legal technology;
(ii) The duty to record that the lawyer is assisted by an AI system or a "non-human assistant";
(iii) That the lawyer has to supervise the result generated by the system, at least at an early stage of the technology employed, in the same way as he or she supervises human assistants, e.g., paralegals and, finally; and
(iv) The duty to inform the customer that he or she is assisted by an AI system.

Another outcome of this transformation will be the emergence of new jobs for lawyers who will need training in technology or technologists trained in Law (SUSSKIND R. 2017, 133 ff.). The legal engineers who have the skill of representing legal rules through binary code, the legal technologist (bridging the gap between legal practice and the administration of justice and technology), the legal process analyst (splitting up cases and disputes into tasks that can be automated by deciding which provider can offer the best service in relation to each of them), the legal project manager (controls the process of legal decomposition and outsourcing that has been executed by the legal process analyst), the ODR specialist, the legal designer or the legal risk analyst would be more in demand than traditional lawyers.

Employers, on the other hand, would no longer be law firms but technology companies, legal know-how providers, legal process outsourcers, global finance companies, and many others.

A prospective regulation, both on professional services and professional bodies, should take full account of the digitalization of services that openly involve legal services now.

As a preliminary step, however, the review of Law degrees and LLM curricula to implement new skills (technology, business management, and innovation) is, in my opinion, an essential first step.

The application of LegalTech tools in the field of justice will be slower than in the legal practice but it is unavoidable. In any case, the principles highlighted in the *European Ethical Charter on the Use of Artificial Intelligence in Judicial Systems and their Environment*, adopted in Strasbourg in December 2018 by the European Commission for the Efficiency of Justice (CEPEJ 2018, 14) should be taken into account when developing and applying those LegalTech tools.

These principles are:

(i) The *principle of respect for fundamental rights*: ensure that the design and implementation of artificial intelligence tools and services are compatible with fundamental rights.

(ii) The *principle of non-discrimination*: specifically prevents the development or intensification of any discrimination between individuals or groups of individuals
(iii) The *principle of quality and security*: about the processing of judicial decisions and data, use of certified sources and intangible data with models elaborated in a multidisciplinary manner, in a secure technological environment
(iv) The *principle of transparency, fairness, and justice*: make data processing methods accessible and understandable, authorize external audits, and
(v) The *principle under «users» control*: preclude a prescriptive approach and ensure that users are informed actors in control of the choices made.

References

ABA 2016. *Report on the Future of Legal Services in the United States*, by the American Bar Association (ABA) Commission on the Future of Legal Services, https://www.americanbar.org/groups/centers_commissions/center-for-innovation/past-work/commission-on-the-future-of-legal-services/.

AIDA 2022. *Identification and Assessment of Existing and Draft EU Legislation in the Digital Field*, Study requested by the AIDA special committee, January 2022. Available on: https://www.europarl.europa.eu/thinktank/en/document/IPOL_STU(2022)703345.

ALLEN L.E. 1957. *Symbolic Logic: A Razor-Edged Tool for Drafting and Interpreting Legal Documents*, in «Yale Law Journal», 66, 833 ff.

ARMSTRONG M. 2006. *Competition in Two-Sided Markets*, in «RAND Journal of Economics», 37, 3, 668 ff.

ASHLEY K.D. 2017. *Artificial Intelligence and Legal Analytics: New Tools for Law Practice in the Digital Age*, Cambridge University Press.

BARONA VILAR S. 2021. *Algoritmización del Derecho y de la Justicia. De la inteligencia artificial a la Smart Justice*, Tirant Lo Blanch.

BARRIO ANDRÉS M. 2019. *Legal Tech y la transformación del sector legal*, in BARRIO ANDRÉS M. (ed.), *Legal Tech. La transformación digital de la abogacía*, Wolters Kluwer, La Ley.

BECK W. 2019. *Legal Tech und Künstliche Intelligenz*, in «DÖV», 16, 639 ff.

BEN-ARI D., FRISH Y., LAZOVSKI A., ELDAN U., GREENBAUM D. 2017. *Danger, Will Robinson? Artificial Intelligence in the Practice of Law: An Analysis and Proof of Concept Experiment*, in «Richmond Journal of Law & Technology», 23, 2, 13 ff.

BENNETT J., MILLER T., WEBB J., BOSUA R., LODDERS A., CHAMBERLAIN S. 2018. *Current State of Automated Legal Advice Tools*, in «Analysis and Policy Observatory», 2 May 2018.

BOURCIER D., CASANOVAS P. (eds.) 2003. *Inteligencia artificial y derecho*, Editorial UOC.

BRANTING L.K. 2017. *Data-Centric and Logic-Based Models for Automated Legal Problem Solving*, in «Artificial Intelligence and Law», 25, 5 ff.

BRESCIA R.H., MCCARTHY W., MCDONALD A., POTTS K., RIVAIS C. 2015. *Embracing Disruption: How Technological Change in the Delivery of Legal Services Can Improve Access to Justice*, in «Albany Law Review», 78, 2, 553 ff.

BRUSCHWING C.R. 2021. *Visual Law and Legal Design. Questions and Tentative Answers*, in SCHWEIGHOFER E., KUMMER F., SARENPÄÄ A., EDAR S., HANKE P. (eds.), *Cybergovernance*, Weblaw, 219 ff.

BRUSCHWING C.R. 2020. *Humanoid Robots for Contract Visualisation*, in «UNIO - EU Law Journal», 6, 1, 142 ff.

BUES M.M., MATTHAEI E. 2017. *Legaltech on the Rise: Technology Changes Legal Work Behaviours, but Does Not Replace Its Profession*, in JACOB K., SCHINDLER D., STRATHAUSEN R. (eds.), *Liquid Legal: Transforming Legal into Business Savy, Information Enabled and Performance Driven Industry*, Springer.

COUNCIL OF BARS & LAW SOCIETIES OF EUROPE. 2018. *CCBE Guide on Lawyer's Use of Online Legal Platforms*. Available on: https://www.ccbe.eu/fileadmin/speciality_distribution/public/documents/DEONTOLOGY/DEON_Guides_recommendations/EN_DEON_20180629_CCBE-Guide-on-lawyers-use-of-online-legal-platforms.pdf.

CEPEJ 2018. *European Ethical Charter on the Use of Artificial Intelligence (AI) in Judicial Systems and Their Environment*, 3-4 December 2018. Available on: https://rm.coe.int/ethical-charter-en-for-publication-4-december-2018/16808f699c.

ENGELMANN Ch., BRUNOTTE N., LÜTKENS H. 2021. *Regulierung von Legal Tech durch die KI-Verordnung*, in «Recht Digital», 7, 317 ff.

GONZÁLEZ-ESPEJO GARCÍA Mª.J. 2019. *El ecosistema Legal Tech en España* in BARRIO ANDRÉS M. (ed.), *Legal Tech. La transformación digital de la abogacía*, Wolters Kluwer, La Ley, 345 ff.

GRAY P.N. 1997. *Artificial Legal Intelligence*, Dartmouth Publishing Company.

GUTIÉRREZ P., OSMAN R., ROIG C., SIERRA C. 2016. *Personalised Automated Assessments*, in THANGARAJAH J., TUYLS K., JONKER C., MARSELLA S. (eds.), *Proceedings of the 15th International Conference on Autonomous Agents and Multiagent Systems*, IFAMAAS.

HACKER Ph. 2018. *UberPop, UberBlack, and the Regulation of Digital Platforms after the Professional Association Elite Taxi Judgment of the CJEU*, in «European Review of Contract Law», 14, 1, 80 ff.

HONGDAO Q., BIBI S., KAHN A., ARDITO L., KHASKHELI M.B. 2019. *Legal Technologies in Action: The Future of the Legal Market in Light of Disruptive Innovations,* in «Sustainability», 11, 4, 1015. Available on: https://www.mdpi.com/2071-1050/11/4/1015.

LEENES R., LUCIVERO F. 2014. *Laws on Robots, Laws by Robots*, in «Law, Innovation and Technology», 6, 2.

LETR 2013. *Setting Standards: The Future of Legal Services Education and Training Regulation in England and Wales*, Report of the Legal Education and Training Review.

LIEBWALD D. 2015. *On Transparent Law, Good Legislation and Accessibility to Legal Information: Towards an Integrated Legal Information System*, in «Artificial Intelligence and Law», 23, 301 ff.

LÓPEZ-LAPUENTE GUTIÉRREZ L, LAMELA DOMÍNGUEZ A. 2019. *La automatización de contratos* in BARRIO ANDRÉS M. (ed.), *Legal Tech. La transformación digital de la abogacía*, Wolters Kluwer, La Ley, 234 ff.

MAU S. 2019. *The Metric Society*, Polity Press.

NAVAS NAVARRO S. (ed.). 2017. *Inteligencia artificial, tecnología, derecho*, Tirant Lo Blanch.

NEWELL A., SHAW J.C., SIMON H.A. 1959. *Report on a General Problem-Solving Program*, in *Proceedings of the International Conference on Information Processing*, 1 ff. Available on: http://bitsavers.informatik.uni-stuttgart.de/pdf/rand/ipl/P-1584_Report_On_A_General _Problem-Solving_Program_Feb59.pdf.

NIEVA FENOLL J. 2018. *Inteligencia artificial y proceso judicial*, Marcial Pons.

OSKAMP A., LAURITSEN M. 2002. *AI in Law practice? So Far, Not Much*, in «Artificial Intelligence and Law», 10, 227 ff.

ROCHET J.CH., TIROLE J. 2003. *Platform Competition in Two-Sided Markets*, in «Journal of the European Economic Association», 1, 990 ff.

SALMERÓN-MANZANO E. 2021. *Legaltech and Lawtech: Global Perspectives, Challenges, and Opportunities*, in «Laws», 10, 2, 24. Available on: https://www.mdpi.com/2075-471X/10/2/24.

SANDEFUR R.K. 2019. *Access to What?,* in «Dædalus, the Journal of the American Academy of Arts & Sciences», 148, 1, 49 ff.

SCHORLEMMER M., CONFALONIERI R., PLAZA E. 2016. *The Yoneda Path to Buddhist Monk Blend.* Available on: http://ceur-ws.org/Vol-1660/caos-paper4.pdf.

SOLAR CAYÓN J. I. 2019. *La inteligencia artificial jurídica. El impacto de la innovación tecnológica en la práctica del Derecho y el mercado de los servicios jurídicos*, Thomson Reuter, Aranzadi.

SHULAYEVA O., SIDDHARTHAN A., WYNER A. 2017. *Recognizing Cited Facts and Principles in Legal Judgements*, in «Artificial Intelligence and Law», 25, 107 ff.

SOLANO GADEA M. 2019. *Chatbots*, in BARRIO ANDRÉS M. (ed.). *Legal Tech. La transformación digital de la abogacía*, Wolters Kluwer, La Ley, 153 ff.

SUSSKIND R., SUSSKIND D. 2016. *El futuro de las profesiones. Cómo la tecnología transformará el trabajo de los expertos humanos*, Teell.

SUSSKIND R. 2017. *Tomorrow's Lawyers: An Introduction to Your Future* (2nd Ed.), Oxford University Press.

SUSSKIND R. 2019. *Online Courts and the Future of Justice* (1st Ed.), Oxford University Press.

TIMMERMANN D. 2020. *Legal Tech-Anwendungen*, Nomos Verlag.

WAGNER J. 2018. *Legal Tech und Legal Robots. Der Wandel im Rechtsmarkt durch neue Technologien und künstliche Intelligenz*, Springer.