Artificial intelligence applied to the finance sector: contractual challenges and liability scenarios

Marie Danis
Partner – August Debouzy
Charles Bouffier
Counsel – August Debouzy
and
Thomas Feigean
August Debouzy Law Firm

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Abstract:
Artificial Intelligence (AI) is spreading to all corners of the economy and, in particular, to the finance sector. Together with the promise of new services, this technology also carries legal risks as there is some uncertainty surrounding the outcomes of the processing it performs. As a result, FinTech companies, which develop tools with AI systems embedded, and banks, which acquire the rights of use, have to stipulate, in their agreements and contracts, ownership of the wealth generated and the liability and warranties for all the parties. Banks which offer AI resources to their customers also need to gauge the extent of their liability should the latter suffer damage/loss.

AI, the great myth of our times,[1] is subject to very close scrutiny, especially from lawyers.

Besides the ethical issues it raises, AI is now seen as something containing economic value.

FinTech companies[2] are experiencing exponential growth in the financial sector. These businesses make use of new technologies, particularly AI, to automate certain tasks and procedures, to eliminate intermediaries and, therefore, to cut the cost of the related services.[3]

[1] CNIL (2017), "*Comment permettre à l'homme de garder la main* ?", Report on the ethical issues surrounding algorithms and artificial intelligence, December, p. 2.
[2] FinTech is a contraction of the words "financial" and "technology", and it is defined by the *Autorité des marchés financiers* (AMF) as "the many innovative technological initiatives seen in the financial sector over the last five years", *in* AMF (2017), "Risks and Trends, 2017 Risk Outlook", July.
[3] Deloitte (2018), "*Les Français et les nouveaux services financiers*", 3rd edition, 12 April.

To date, despite the major economic and social upheaval that it is thought to cause,[4] the use of AI has not been addressed by specific regulations,[5] and the relevance of such regulations is still open to debate. As regards FinTech companies, the question is particularly topical due, inter alia, to the operational risks and/or the risks of misappropriation connected with the increasing use of new digital tools.[6]

Consequently, today, contracts are still the best adapted way of governing the creation and/or use of an AI solution.

In the finance sector, and everywhere else, drafting a contract governing the use of AI involves (1) prior legal classification (2) in order to determine the rights and obligations of the parties concerned. Liability scenarios may therefore vary depending on whether, or not, the parties will be bound by a contract (3).

Definition and protection of Artificial Intelligence

IT programs are the very essence of AI

Definition of AI

Since the 1950s, IT engineers have been striving to design information systems able to reproduce human cognitive capacities. Initially intended to emulate knowledge by building expert systems,[7] AI capacities are currently being developed by establishing neural networks.

Whether in inference engines or neural networks, the AI function is always formalised by an algorithm which is, in turn, systematically "absorbed" into the source code of an IT program (or software application).

AI protection arrangements

In theory, algorithms cannot be protected in themselves. Nevertheless, AI is inseparably integrated into the source code lines of a program (or software application) and, as a result, can be protected under intellectual property legislation.

[4] In this respect, see Villani C. (2018), "*Donner un sens à l'intelligence artificielle*", parliamentary taskforce from 8 September 2017 to 8 March 2018.
[5] With the exception of regulations on ICOs (Initial Coin Offerings). These fund-raising methods operate by the issuance of digital assets which can be exchanged for crypto-currencies during the start-up stage of a project. These assets, known as tokens, are issued and exchanged using blockchain technology, but will not be dealt with as part of this article.
[6] Tandeau De Marsac S. (2018), "*Comment réguler les fintechs* ?", Banque & Droit, no. 181, September-October, pp.12 et seq.
[7] According to Encyclopédie Larousse, "A set of software applications whose capacity to solve new problems in a given field are similar to those of a human expert specialising in that field".

Software applications have been protected within the European Union[8] since 1991 by special copyright arrangements. Provided the computer program is an original work, [9] the designer has a private right to use the software for 70 years. In principle, the holder of said right will not be the developer but the publisher which employs him/her[10] (or with which he/she may have entered into contractual relations as part of a commission and rights transfer agreement[11]) and which publishes his/her program.
The publisher may also take out secondary protection by filing a patent. This implies that the developed AI solution includes an underlying technical process. Such protection also involves meeting the strict criteria applying to patentable inventions.[12]

Data, AI's essential partner

Definition of data

Combined with other factors, the advent of Big Data has enabled AI performance levels to be significantly boosted.

AI requires big data both to develop and operate. This is why data is often referred to as 21st century's new oil.

The issue of appropriating both incoming and outgoing data is central to contracts/agreements for the use of AI. This most frequently refers to industrial data which is not protected as such by intellectual property law. Rolling out an AI solution can also involve processing personal information and, in this case, the contract/agreement must also set out the parties' rights and obligations in view of applicable regulations, especially Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 (General Data Protection Regulation, GDPR).

Database protection arrangements

Whilst intellectual property law does not intrinsically protect data, AI theoretically uses data contained in databases which have been subject to autonomous and harmonised protection arrangements in the EU since 1996.[13]

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[8] Council Directive 91/250/EEC of 14 May 1991 on the legal protection of computer programs, which has since been codified, without affecting existing legislation, by Directive 2009/24/EC of the European Parliament and of the Council of 23 April 2009 and written into French law in the Intellectual Property Code (CPI).

[9] Whilst the French criterion of the imprint of the personality of the author establishes the original nature of the work, case law has laid down software-specific criteria of the intellectual contribution and the personal effort of the program's author: see the Pachot ruling, Plenary Assembly, 7 March 1986, appeal on points of law no. 83-10477.

[10] Article L.113-9(1) of the CPI: "Unless there are statutory provisions or stipulations to the contrary, the economic rights over software applications and their documentation created by one or several employees when carrying out their duties or following instructions from their employer, are vested in the employer who shall have sole authority to exercise them".

[11] Article L.11-1 of the CPI: "Simply by creating an intellectual work, its author enjoys an exclusive intangible property right over it which is enforceable against all persons.
This right shall include attributes of an intellectual and moral nature as well as attributes of an economic nature, as determined by Books I and III of this Code.
The existence or conclusion of a contract for hire or service by the author of an intellectual work shall in no way override the enjoyment of the author's right recognised in the first paragraph, subject to the exceptions set forth in this Code […]".

[12] In order to be protected by a patent, an invention must meet the cumulative conditions of novelty, industrial applicability and inventive step.

[13] Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases, written into French law in the Intellectual Property Code.

Producers of databases are therefore entitled to authorise or forbid access to the data they contain. Consequently, use of an AI solution involves juggling the interests of its publisher with those of the producer of the database which supplies it.

In terms of prospective law, certain stakeholders are calling for the introduction of a property right for individuals over their personal data,[14] whilst others are considering establishing a specific right for producers of data.[15]

AI management by contracts

Management of rights over AI output

Rights over AI output

Negotiating a licensing or assignment agreement concerning an AI solution involves deciding on the respective parties' rights over the output generated.

A traditional approach[16] would be to consider an AI solution as a thing with a right of accession to what that thing produces as provided for in Articles 546 and 547 of the Civil Code.[17] Using this approach, the owner of the initial solution is designated as the natural owner of the output derived therefrom (subject to the rights of any contributors).

A different view would be to flag up the fact that as AI only works with data, its fruits are only data themselves. The specific right belonging to the database producer[18] would then enable the allocation of rights on outgoing data to be settled for the latter's benefit.

As these two approaches could mean that different beneficiaries of the output of an AI solution could be designated, the parties in question would be well advised to settle the matter of beneficiary by contract.

Rights over AI-derived creations

In certain circumstances, the output from AI may be a creation.[19] In this case, the beneficiary of an agreement for use would look, in theory, to obtain the rights over the AI-derived output. Although the right of accession could potentially enable such an allocation to be justified (see above), in practice, it is the economic situation which very often provides the real justification.

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[14] Landreau I., Pelkiks G., Binctin N., Pez-Perard V. & Léger L. (2018), "*Mes data sont à moi. Pour une patrimonialité des données personnelles.*", *Génération Libre*, January.
[15] See, in this respect, Villani C., *op. cit.*; Delpech X. (2018), "*Intelligence artificielle : le droit (des contrats) a aussi son mot à dire*", *AJ Contrat*, p.145.
[16] Gautier P.-Y. (2018), "*De la Propriété des créations issues de l'intelligence artificielle*", *La Semaine Juridique Édition Générale,* no. 37, September.
[17] Civil Code, Article 546: "Ownership of a thing, either movable or immovable, gives a right to everything it produces and to what is accessorily united to it, either naturally or artificially. That right is called right of accession".
[18] Ledieux M.-A. (2018), "*Machine learning*-intelligence artificielle-logiciel à réseau neuronal juridique", www.ledieu-avocats.fr, October.
[19] For instance, a contract, a painting, accounting data, a musical score, etc.

In light of the foregoing, a company using an AI solution which adds incoming data/content to it would naturally claim entitlement to the rights over the outgoing output.

When this output is in graphic form, whether the latter is analysed as an AI creation or an AI-assisted creation, the person having provided the incoming works will legitimately wish to hold the rights over the fruit of their processing. Here, the arrangements for ownership of such output would vary depending on the level of involvement of AI.[20]

Once they have settled the issue of rights over the AI-derived output, the parties to the contract will also have to consider liability scenarios in the event of a breach.

Management of AI-related liability

When assessing issues surrounding liability, a distinction needs to be made between liability between the parties to the contract and the liability vis-à-vis third parties to this contract.

An example could be a bank that uses the services of a FinTech company to design a tool for its customers. If damage/loss arises when this tool is being used, relations between the FinTech company and the bank will be governed by their contract and those between the bank and its customer by the general terms and conditions. However, should the bank's customer seek to hold the FinTech company liable, he/she/it would have to use the law of tort as there is no contract between them.

Management of AI-related contractual liability

Usual contractual liability scenarios

Assessing contractual liability means determining, insofar as possible, the expectations surrounding use of the AI.

Actually triggering the obligation to provide information and advice would be a pertinent forerunner to the exact definition of the contractual scope and would enable the AI solution publisher to hedge against any non-compliance.

The parties' negotiation of the contract will cover, inter alia, the stipulation of the services/functionalities expected of the AI tool before dealing with the clauses excluding or limiting the service provider's liability.[21] In this respect, Article 1170 of the Civil Code deems as unwritten "any clause which deprives the debtor's material obligation of its essence". In other words, any clause which may provide for such low compensation that the service provider may be encouraged not to perform it.

[20] Vivant M. (2018), "*Lamy Droit du numérique*", no. 332 et seq.
[21] Lani F-P. & Garcia T. (2018), "*Intelligence artificielle, prévoir l'imprévisible dans le contrat*", *Expertises*, May.

Specific liability scenarios

Clauses excluding or limiting liability apply to relations between professionals, for instance a FinTech company having developed an AI solution, and a credit institution which may use said solution.

However, if the credit institution were to offer this AI tool to its non-professional customers, it could not, in theory, enforce such clauses against them as consumer law prevents their application to consumers.[22]

Nevertheless, a FinTech company which publishes an AI solution could undertake vis-à-vis the beneficiary bank to ensure that the processing carried out by the solution does not causes any damage/loss, in particular, to the supplied articles/data. Such a warranty clause in an agreement for use implies that the publisher has a similar provision in its acquisition agreement for data which is used to develop the AI tool.[23]

The use of AI can also generate damage/loss outside the contractual scope. In this case, only tort liability arrangements can be relied on.

The potential seeking of statutory liability

The bank's customer would have to bring proceedings in tort against the software publisher.[24] It would have to be proven that the software, and therefore the designer, was responsible for the damage/loss caused to the victim. This proof is not always easy to establish especially owing to the very relative transparency of AI solutions (for certain algorithms such as deep learning ones, the decision-making processes are hard to track). In addition, if the AI tool only processes the data with which it is provided, any configuration error or any supply of non-compliant/skewed data could exclude the software publisher's liability.

This is why product liability[25] may be sought to enable the victim to hold the designer/publisher of the defective software (i.e. which does not offer the security which may be legitimately expected) liable.

By way of conclusion, a liable party, or at least a party owing compensation whose insurance policy may be used, may be determined from within a fairly broad circle of stakeholders: owner, user, developer/publisher of the solution including the AI, manufacturer, etc. In practice, a victim will be entitled to summon all these players to appear before the same court. The latter may refuse to assume any liability (an expert appraisal may be ordered to determine liability). At the compensation stage, as part of their contractual relations, the various players may invoke the exemption or limitation clauses set out in their contracts against their respective co-contractors.

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[22] Civil Code, Article R.1212-1: "In contracts and agreements executed between professionals and consumers […] clauses having the purpose or effect of […] eliminating or reducing a right to compensation for damage/loss suffered by the consumer in the event of the professional's breach of any of his/her/its obligations, are forbidden".
[23] See, in this respect, Villani C. (2017), "*Intelligence artificielle, perspectives futures*", *Thinkerview*, December.
[24] Civil Code, Article 1240.
[25] Civil Code, Article 1245-3 and 1245-5.