

Civil Liability for AI-Supported Banking Decisions: A Risk-Graduated Model under EU and Algerian Law

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Abstract

The increasing use of artificial intelligence (AI) in banking raises a distinctive problem of civil liability. AI-supported credit assessment, credit scoring, fraud detection, transaction monitoring and risk management may materially affect customers' financial and legal positions, while the causes of a decision may be distributed among banks, software developers, technology providers and data suppliers. This article examines whether traditional civil-liability rules can allocate responsibility for harm caused by AI-supported banking decisions and whether the European Union's risk-based regulatory approach can inform the development of a more coherent Algerian framework.

The analysis focuses on Regulation (EU) 2024/1689 (the AI Act), particularly its treatment of high-risk AI systems used for creditworthiness assessment and credit scoring, together with the Algerian Civil Code, Law No 23-09 on Monetary and Banking Law, and recent Bank of Algeria regulations concerning customer protection and digital banking.

The article argues that the AI Act is not a comprehensive civil-liability regime. Its ex ante requirements on risk management, data governance, documentation, record-keeping, transparency, accuracy, robustness and human oversight may nevertheless provide evidence relevant to the standard of care in subsequent liability disputes. Against this background, the article develops a risk-graduated model based on five connected criteria: algorithmic risk, effective control over the source of risk, duty of care, legally cognisable harm, and causation.

The model seeks to avoid both automatic attribution of liability to the bank and unjustified transfer of liability to developers or technology providers. It concludes that Algeria should adapt, rather than simply transplant, European preventive and evidentiary safeguards to its domestic civil-law and banking framework.

Keywords: artificial intelligence; banking law; credit scoring; algorithmic decision-making; risk-based regulation.

1. Introduction

Artificial intelligence is becoming an increasingly important component of banking activity¹. Banks and other financial institutions use data-driven systems to assess creditworthiness, detect potentially fraudulent transactions, monitor risks, segment customers and support operational decisions. The legal significance of these applications is not merely technical. An algorithmic output may determine whether a customer obtains credit, whether a transaction is suspended, or whether a customer is classified as presenting a particular level of financial risk. The quality, governance and supervision of an AI system may therefore affect legally protected interests².

The difficulty is intensified by the composite nature of an algorithmic banking decision³. A harmful outcome may result from the design of a model, the selection or quality of data, model training, a software update, the configuration adopted by the bank, the way employees interpret the output, or a failure of human oversight⁴. Responsibility cannot therefore always be identified by asking which actor technically produced the final output. The relevant legal question is how responsibility should be allocated among actors exercising different forms of control over the source of risk⁵.

This problem has acquired particular importance in the European Union. Regulation (EU) 2024/1689 establishes a risk-based framework for AI and classifies⁶ subject to the Regulation's conditions, AI systems intended to evaluate the creditworthiness of natural persons or establish their credit score as high-risk systems under Article 6(2) and Annex III, point 5(b), except where the system is used for detecting financial fraud⁷. The AI Act therefore provides a particularly relevant reference point for examining how preventive regulatory duties may interact with later civil-liability claims⁸.

The AI Act should nevertheless not be confused with a general law of civil liability. It is principally a regulatory instrument concerned with the governance and deployment of AI systems⁹. The proposed AI Liability Directive (COM(2022) 496) was intended to adapt non-contractual civil-

¹OECD, Artificial Intelligence, Machine Learning and Big Data in Finance: Opportunities, Challenges, and Implications for Policy Makers (2021).

²Maria Lillà Montagnani, Marie-Claire Najjar and Antonio Davola, "The EU Regulatory Approach(es) to AI Liability, and its Application to the Financial Services Market" (2024) 53 Computer Law & Security Review 105984, p. 4.

³Mohamed Bessas and Houria Souiki, "Civil Liability Regime for Damage Caused by Artificial Intelligence under Algerian Law," Journal of Legal and Political Thought, Vol. 9, No. 1, 2025, p. 25.

⁴Maria Lillà Montagnani, Marie-Claire Najjar and Antonio Davola, "The EU Regulatory Approach(es) to AI Liability, and its Application to the Financial Services Market" (2024) 53 Computer Law & Security Review 105984, 7.

⁵Maria Lillà Montagnani, Marie-Claire Najjar and Antonio Davola, "The EU Regulatory Approach(es) to AI Liability, and its Application to the Financial Services Market" (2024) 53 Computer Law & Security Review 105984, 5.

⁶Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 laying down harmonised rules on artificial intelligence (Artificial Intelligence Act), OJ L 2024/1689, 12 July 2024, art 6(2) and Annex III, point 5(b).

⁷European Banking Authority, "AI Act: implications for the EU banking and payments sector" (21 November 2025).

⁸Judith Arnal, "Unfit for purpose? The legal maze of credit scoring under EU law" (2026) 27 Journal of Banking Regulation 2, p. 2.

⁹Andrea Bertolini, Artificial Intelligence and Civil Liability: A European Perspective (European Parliament Study, 2025), p. 59.

liability rules to AI, but the proposal was withdrawn by the European Commission on 6 October 2025¹. The current EU position therefore requires a careful distinction between ex ante regulatory obligations and ex post rules governing compensation for damage².

Algeria does not yet have a comprehensive AI-specific civil-liability regime. Its legal framework nevertheless contains relevant components, including the Civil Code³, Law No 23-09 on Monetary and Banking Law⁴, personal-data protection legislation, and recent Bank of Algeria regulations on customer protection and digital banking⁵. These instruments provide useful legal foundations, but they do not expressly establish a risk-based allocation of civil liability for AI-supported banking decisions⁶.

The central research question is therefore: **to what extent can traditional civil-liability rules determine responsibility for harm caused by AI-supported banking decisions, and how can the EU risk-based approach inform the development of a more coherent Algerian framework without treating regulatory compliance as equivalent to civil liability?**

The article addresses a research gap at the intersection of AI liability⁷, banking regulation and Algerian civil law. Existing scholarship has examined AI liability in general terms and has increasingly addressed AI regulation in financial services, but comparatively less attention has been given to a structured allocation model for AI-supported banking decisions that expressly connects algorithmic risk, effective control, duty of care, harm and causation in the Algerian context⁸.

The article advances two propositions. First, the mere deployment of AI should not create automatic civil liability. Liability should depend on a legally relevant breach or other recognised basis of responsibility, damage and causation, assessed in light of the actor's actual role and control over the relevant source of risk. Second, the level of algorithmic risk should influence the content and intensity of the duty of care⁹.

¹European Commission, Proposal for a Directive on adapting non-contractual civil liability rules to artificial intelligence, COM(2022) 496 final; the proposal was withdrawn on 6 October 2025, see Official Journal of the European Union, C/2025/5423 (6 October 2025).

²Teresa Rodríguez de las Heras Ballell, "Mapping Generative AI rules and liability scenarios in the AI Act, and in the proposed EU liability rules for AI liability" (2025) 1 Cambridge Forum on AI: Law and Governance e5.

³Order No. 75-58 of 26 September 1975, containing the Algerian Civil Code, Official Gazette of the Algerian Republic No. 78, 30 September 1975.

⁴Law No. 23-09 of 21 June 2023 containing the Monetary and Banking Law, Official Gazette of the Algerian Republic No. 43, 27 June 2023.

⁵Bank of Algeria, Regulation No 25-03 of 14 April 2025 concerning the protection of customers of banks, financial institutions and other entities subject to the law, Official Gazette of the Algerian Republic No 28, 7 May 2025.

⁶Bank of Algeria, Regulation No 24-04 of 13 October 2024 concerning the specific conditions for authorising, establishing and operating digital banks, Official Gazette of the Algerian Republic No 77, 19 November 2024.

⁷Mohamed Bessas and Houria Souiki, 'Civil Liability Regime for Damage Caused by Artificial Intelligence under Algerian Law' *Journal of Legal and Political Thought* 9(1) (2025) 23, 26.

⁸Khadidja Hadj Cherif, "Civil Liability for Damage Caused by the Use of Artificial Intelligence Technologies in Algerian Legislation: An Analytical Study," *Journal of Comparative Legal Studies*, Vol. 12, No. 1, 2026, p. 168.

⁹Nacira Kheloui, "Civil Liability in the Age of Artificial Intelligence: An Analytical Study of the Features of a Special Type of Liability," *Journal of Legal and Economic Studies*, Vol. 8, No. 2, 2025, p. 494.

Methodologically, the article combines doctrinal analysis with functional comparative analysis and prospective legal analysis. It examines primary European and Algerian legal materials and selected institutional and academic literature to identify the relationship between preventive AI governance and civil liability. The comparison is functional rather than transplant-oriented: the objective is to identify principles that can be adapted to Algeria rather than to reproduce the EU regulatory structure in its entirety.

2. AI-Supported Banking Decisions and the Allocation of Civil Liability

2.1. The Specificity of Algorithmic Banking Decisions

An AI-supported banking decision differs from a conventional human decision because the causal chain leading to the outcome may be distributed across a technical and organisational process¹. The system may infer a prediction or classification from large datasets, while the bank determines the purposes of use, selects the system, configures parameters and decides how the output will influence the customer relationship².

The resulting decision is therefore neither purely human nor purely technological. Three characteristics are legally significant³. First, opacity may make it difficult for an affected customer to understand why a particular outcome was generated. Secondly, complexity may make causal attribution difficult because a harmful outcome can emerge from the interaction of data, model architecture implementation and human intervention. Thirdly, dependence on third-party providers can divide control across the AI value chain. These features do not eliminate traditional liability concepts, but they complicate their application⁴.

In credit assessment, for example, an inaccurate or unrepresentative dataset may lower a customer's score⁵. A model may also generate systematically distorted results because of inappropriate design or inadequate validation⁶. Alternatively, the model may operate properly while the bank uses it outside the context for which it was validated. The legal analysis should distinguish these situations rather than attribute the entire outcome to "AI" as an abstract source of harm.

¹Khadidja Hadj Cherif, 'Civil Liability for Damage Caused by the Use of Artificial Intelligence Technologies in Algerian Legislation: An Analytical Study' *Journal of Comparative Legal Studies* 12(1) (2026) p. 156.

²Baris Soyer and Andrew Tettenborn, "Artificial Intelligence and Civil Liability—Do We Need a New Regime?" (2022) 30(4) *International Journal of Law and Information Technology*, p. 386.

³Lamia Hamdado, "Artificial Intelligence and Civil Liability Law: Towards an Independent Regime?", *Journal of Judicial Jurisprudence*, Vol. 17, No. 2, 2025, p. 67.

⁴Nacira Kheloui, 'Civil Liability in the Age of Artificial Intelligence: An Analytical Study of the Features of a Special Type of Liability' *Journal of Legal and Economic Studies* 8(2) (2025) p. 485.

⁵Maria Lillà Montagnani, Marie-Claire Najjar and Antonio Davola, 'The EU Regulatory Approach(es) to AI Liability, and its Application to the Financial Services Market' (2024) 53 *Computer Law & Security Review* 105984, 7.

⁶Mohamed Bessas and Houria Souiki, 'Civil Liability Regime for Damage Caused by Artificial Intelligence under Algerian Law' *Journal of Legal and Political Thought* 9(1) (2025) p. 28.

2.2. Traditional Civil Liability and the AI Problem

The general architecture of civil liability remains relevant¹. Depending on the applicable legal relationship and national rules, liability may arise in contract or tort and ordinarily requires legally cognisable damage, a breach or fault where fault is required, and a causal connection between the relevant conduct and the damage².

The technological complexity of AI does not by itself displace these requirements. What changes is the factual content of the duty of care. In an AI-driven banking environment, reasonable professional conduct may include selecting a system appropriate to the intended use, validating its performance, assessing data quality, monitoring outputs, maintaining records, responding to anomalies, and ensuring meaningful human oversight³. A failure in one of these areas may provide evidence of breach even when the bank did not itself design the algorithm⁴.

This approach also avoids an overly broad form of technological strict liability⁵. A bank should not be liable merely because an AI-supported decision caused an adverse outcome. Conversely, a developer should not automatically bear liability for every loss caused by a system supplied to a bank. The allocation⁶.

should correspond to the actor's legally relevant control and obligations⁷.

The central problem of causation is evidentiary as much as conceptual. Customers generally do not possess the technical information needed to reconstruct an algorithmic decision. Documentation, logs, model information, records of human intervention and information about data provenance may therefore have substantial evidentiary value. This does not necessarily justify reversing the burden of proof in every case; it supports more targeted disclosure and evidentiary mechanisms proportionate to the technical asymmetry between the parties⁸.

3. The EU AI Act and High-Risk Banking Applications

3.1. The Risk-Based Architecture

The EU AI Act is structured around differentiated levels of regulatory risk. Its importance for banking lies particularly in the treatment of high-risk applications. Annex III identifies AI systems

¹Maria Lillà Montagnani, Marie-Claire Najjar and Antonio Davola, 'The EU Regulatory Approach(es) to AI Liability, and its Application to the Financial Services Market' (2024) 53 Computer Law & Security Review 105984, 7.

²Mohamed Bessas and Houria Souiki, 'Civil Liability Regime for Damage Caused by Artificial Intelligence under Algerian Law' Journal of Legal and Political Thought 9(1) (2025) p. 24.

³Nacira Kheloui, 'Civil Liability in the Age of Artificial Intelligence: An Analytical Study of the Features of a Special Type of Liability' Journal of Legal and Economic Studies 8(2) (2025) 484, 485.

⁴Hajar Yahia, 'Artificial Intelligence-Based Credit Scoring: Challenges, Risks and Future Prospects in Algeria' Journal of Studies in Economics and Business Administration 9(1) (2026) 385, 385.

⁵Judith Arnal, 'Unfit for purpose? The legal maze of credit scoring under EU law' (2026) 27 Journal of Banking Regulation 2, 2.

⁶Bessas and Souiki, p. 25.

⁷Order No 75-58 of 26 September 1975, containing the Algerian Civil Code, Official Gazette of the Algerian Republic No 78, 30 September 1975.

⁸Hamza Fellay and Ouahiba Ben Nasser, "An Overview of Tort Liability Based on Fault and Liability for Things in Relation to Artificial Intelligence under Algerian Civil Law," Algerian Journal of Public and Comparative Law, Vol. 11, No. 2, 2025, p 127.

intended to evaluate the creditworthiness of natural persons or establish their credit score, subject to the Regulation's conditions and exceptions¹. The European Banking Authority's 2025 mapping exercise confirms the importance of this category for banks and payments institutions².

For high-risk systems, the AI Act imposes a set of governance requirements that are relevant to the prevention and documentation of harm³. These include risk-management systems, data and data-governance requirements, technical documentation, record-keeping, transparency and information duties, human oversight, accuracy, robustness and cybersecurity⁴. These requirements are regulatory obligations; they are not, without more, autonomous causes of civil liability⁵.

Nevertheless, regulatory obligations may influence the standard of care⁶. Where a bank deploys a high-risk system without appropriate risk management, adequate validation, sufficient records or meaningful human oversight, the relevant regulatory breach may constitute evidence that the institution failed to act with the level of professional care reasonably expected in the circumstances⁷.

The legal effect of such evidence must remain distinct from the question whether the claimant has established damage and causation under the applicable civil-liability rules.

The distinction is essential. Regulatory compliance does not guarantee that no damage will occur, and regulatory non-compliance should not automatically determine civil liability in every case⁸.

The proper approach is to treat the regulatory framework as one source for identifying foreseeable risks and the precautions reasonably expected from a professional operator.

3.2. Documentation, Traceability and Human Oversight

Documentation and record-keeping are especially important in liability disputes because they can make the decision path sufficiently reconstructable to permit legal scrutiny⁹. In an opaque technological environment, evidence concerning what the system was intended to do, what data it used, what version was deployed, what warnings were generated, and whether a human reviewed the result may be decisive in determining breach and causation¹⁰.

¹Baris Soyer and Andrew Tettenborn, 'Artificial Intelligence and Civil Liability—Do We Need a New Regime?' (2022) 30(4) *International Journal of Law and Information Technology* 385, 386.

²Regulation (EU) 2024/1689, art 6(2), Annex III, point 5(b), and art 14.

³Nacira Kheloui, 'Civil Liability in the Age of Artificial Intelligence: An Analytical Study of the Features of a Special Type of Liability' *Journal of Legal and Economic Studies* 8(2) (2025) 484, 486.

⁴Maria Lillà Montagnani, Marie-Claire Najjar and Antonio Davola, 'The EU Regulatory Approach(es) to AI Liability, and its Application to the Financial Services Market' (2024) 53 *Computer Law & Security Review* 105984, 8.

⁵Baris Soyer and Andrew Tettenborn, 'Artificial Intelligence and Civil Liability—Do We Need a New Regime?' (2022) 30(4) *International Journal of Law and Information Technology* p. p 385, 386.

⁶Mohamed Bessas and Houria Souiki, 'Civil Liability Regime for Damage Caused by Artificial Intelligence under Algerian Law' *Journal of Legal and Political Thought* 9(1) (2025) p. p23, 29.

⁷Khadidja Hadj Cherif, 'Civil Liability for Damage Caused by the Use of Artificial Intelligence Technologies in Algerian Legislation: An Analytical Study' *Journal of Comparative Legal Studies* 12(1) (2026) 156, 164.

⁸Montagnani, Najjar and Davola, Op. Cit., p. 9.

⁹Andrea Bertolini, *Artificial Intelligence and Civil Liability: A European Perspective* (European Parliament Study, 2025), 60.

¹⁰Khadidja Hadj Cherif, 'Civil Liability for Damage Caused by the Use of Artificial Intelligence Technologies in Algerian Legislation: An Analytical Study' *Journal of Comparative Legal Studies* 12(1) (2026) p. p 156, 165.

Human oversight should also be understood substantively rather than formally. The presence of a human employee in the process does not necessarily establish effective oversight¹. Meaningful oversight requires sufficient competence, access to relevant information, the practical ability to challenge an output, and authority to intervene where the circumstances justify intervention. Article 14 of the AI Act is particularly significant in this respect².

This insight is directly relevant to civil liability. If a system produces an anomalous output and the bank has appropriate information and expertise to identify the anomaly but fails to intervene, the omission may support a finding of breach. Conversely, where an unforeseeable failure occurs despite appropriate selection, testing, monitoring and oversight, the case for attributing liability to the bank becomes weaker.³

3.3. The Limits of the EU AI Act as a Liability Regime

The EU AI Act should therefore be understood as part of a broader regulatory ecosystem rather than as a substitute for civil-liability law⁴. The withdrawal of the proposed AI Liability Directive in 2025 leaves civil claims to operate through existing and sector-specific liability mechanisms, alongside the evidentiary and governance effects generated by the AI Act⁵. The European Parliament's 2025 study on AI and civil liability highlights the resulting policy debate and the continuing question of how liability should be allocated for high-risk systems.

Recent European scholarship has also stressed the particular difficulty of AI liability in financial services, where complexity, opacity and data dependence coexist with dense sectoral regulation⁶. The financial-services context therefore illustrates why AI governance and civil liability should be coordinated without being conceptually collapsed into a single regime⁷.

4. The Algerian Legal Framework

4.1. General Civil Liability

Algeria currently lacks a general statute specifically regulating civil liability for AI systems⁸. The Civil Code therefore remains an important starting point for claims involving unlawful conduct, contractual non-performance and damage. The difficulty is not that traditional liability concepts are incapable of addressing AI-related harm; rather, their application requires the legal system to identify the relevant duty, the responsible actor and the evidence necessary to establish causation⁹.

¹Nacira Kheloui, 'Civil Liability in the Age of Artificial Intelligence: An Analytical Study of the Features of a Special Type of Liability' *Journal of Legal and Economic Studies* 8(2) (2025) p. p 484, 486.

²Mohamed Bessas and Houria Souiki, 'Civil Liability Regime for Damage Caused by Artificial Intelligence under Algerian Law' *Journal of Legal and Political Thought* 9(1) (2025) p. p 23, 32.

³Regulation (EU) 2024/1689, art 6(2), Annex III, point 5(b), and art 14.

⁴European Banking Authority, 'AI Act: implications for the EU banking and payments sector' (21 November 2025).

⁵Judith Arnal, 'Unfit for purpose? The legal maze of credit scoring under EU law' (2026) 27 *Journal of Banking Regulation* 2, 2.

⁶Regulation (EU) 2024/1689, art 6(2), Annex III, point 5(b), and art 14.

⁷European Banking Authority, 'AI Act: implications for the EU banking and payments sector' (21 November 2025).

⁸Regulation (EU) 2024/1689, art 6(2), Annex III, point 5(b), and art 14.

⁹Maria Lilla Montagnani, Marie-Claire Najjar and Antonio Davola, 'The EU Regulatory Approach(es) to AI Liability, and its Application to the Financial Services Market' (2024) 53 *Computer Law & Security Review* 105984, 9.

For banking activity, the professional status of the institution is particularly important¹. A bank chooses the technological tools through which it conducts its business and remains responsible for the manner in which those tools are deployed within the customer relationship. Outsourcing the development or operation of a system does not, by itself, remove the bank's professional obligations toward its customers².

4.2. Monetary and Banking Regulation

Law No. 23-09 of 21 June 2023 containing the Monetary and Banking Law³ provides the contemporary statutory framework for banking activity. It should be read together with Bank of Algeria regulations governing internal control, digital banking and customer protection. The regulatory environment is therefore capable of supplying important standards of professional conduct even in the absence of AI-specific legislation⁴.

Regulation No. 25-03 of 14 April 2025 is particularly relevant because it establishes rules concerning customer protection and good practices⁵. Its existence strengthens the normative basis for transparency, fair treatment and responsible banking conduct, although it does not itself constitute an AI-liability regime⁶.

Regulation No. 24-04 on digital banking is also relevant because the expansion of digital banking increases the importance of technology governance and operational risk.⁷

The appropriate next step is not to infer that these regulations already regulate AI, but to examine how their existing duties could interact with AI-specific risks.⁸

4.3. Personal Data Protection Is Necessary but Insufficient

Personal-data protection is an essential component of lawful algorithmic decision-making, but it cannot by itself resolve the problem of AI liability⁹. Data may be lawfully collected and processed while still producing an inaccurate, discriminatory or otherwise defective decision¹⁰.

¹Baris Soyer and Andrew Tettenborn, 'Artificial Intelligence and Civil Liability—Do We Need a New Regime?' (2022) 30(4) *International Journal of Law and Information Technology*. p. 386.

²Montagnani, Najjar and Davola, 9.

³ Law No. 23-09, Op. Cit., Official Gazette No. 43, 27 June 2023.

⁴Andrea Bertolini, *Artificial Intelligence and Civil Liability: A European Perspective* (European Parliament Study, 2025), p. p 57–68.

⁵Khadidja Hadj Cherif, 'Civil Liability for Damage Caused by the Use of Artificial Intelligence Technologies in Algerian Legislation: An Analytical Study' *Journal of Comparative Legal Studies* 12(1) (2026) 156, 165.

⁶Mohamed Bessas and Houria Souiki, 'Civil Liability Regime for Damage Caused by Artificial Intelligence under Algerian Law' *Journal of Legal and Political Thought* 9(1) (2025) p. p 25, 35.

⁷Mohamed Bessas and Houria Souiki, 'Civil Liability Regime for Damage Caused by Artificial Intelligence under Algerian Law' *Journal of Legal and Political Thought* 9(1) (2025) p. 35.

⁸Regulation (EU) 2024/1689, art 6(2), Annex III, point 5(b), and art 14.

⁹Andrea Bertolini, *Artificial Intelligence and Civil Liability: A European Perspective* (European Parliament Study, 2025), 62.

¹⁰Shu Li and Michael Faure, "The insurability of AI-related risks: implications from the recent legislation in the European Union" (2025) 50(3) *The Geneva Papers on Risk and Insurance—Issues and Practice* p. 524.

The legal system must therefore protect not only the legality of data processing but also the integrity of the decision-making process and the safeguards surrounding consequential automated decisions¹.

This distinction is particularly important in credit scoring. The relevant harm may result not from unlawful collection of data but from an inappropriate model, poor validation, unsuitable features, inadequate monitoring or an absence of effective human review².

A coherent Algerian framework should consequently connect data governance with algorithmic governance rather than treating them as interchangeable concepts³.

5. A Risk-Graduated Model of Civil Liability

5.1. The Model

This article proposes a risk-graduated model for allocating civil liability for AI-supported banking decisions⁴. The model is not intended to replace the traditional elements of liability. Instead, it provides a structured method for determining the content of the duty of care and for allocating responsibility among multiple actors⁵.

The model is built on five interrelated criteria: (1) the level of algorithmic risk; (2) effective control over the source of risk; (3) the content and intensity of the duty of care; (4) legally cognisable harm; and (5) causation. These criteria should be assessed together rather than mechanically⁶.

First, risk should influence the precautions reasonably expected from the actor. A system used for an administrative back-office task presents a different legal risk from a system that materially affects an individual's access to credit⁷. Secondly, effective control identifies the actor best positioned to prevent or mitigate the relevant risk. Thirdly, the duty of care should correspond to both the foreseeable harm and the actor's professional role. Fourthly, the claimant must establish damage of a legally recognised kind. Fifthly, the causal connection must link the breach or legally relevant conduct to the harm⁸.

¹Order No 75-58 of 26 September 1975, containing the Algerian Civil Code, Official Gazette of the Algerian Republic No 78, 30 September , 1975.

²Khadidja Hadj Cherif, 'Civil Liability for Damage Caused by the Use of Artificial Intelligence Technologies in Algerian Legislation: An Analytical Study' *Journal of Comparative Legal Studies* 12(1) (2026) 156, 167.

³Law No 23-09 of 21 June 2023 containing the Monetary and Banking Law, Official Gazette of the Algerian Republic No 43, 27 June , 2023.

⁴Bank of Algeria, Regulation No 25-03 of 14 April 2025 concerning the protection of customers of banks, financial institutions and other entities subject to the law, Official Gazette of the Algerian Republic No 28, 7 May , 2025.

⁵Bank of Algeria, Regulation No 24-04 of 13 October 2024 concerning the specific conditions for authorising, establishing and operating digital banks, Official Gazette of the Algerian Republic No 77, 19 November , 2024.

⁶Bank of Algeria, Regulation No 25-03 of 14 April 2025 concerning the protection of customers of banks, financial institutions and other entities subject to the law, Official Gazette of the Algerian Republic No 28, 7 May , 2025.

⁷Bank of Algeria, Regulation No 24-04 of 13 October 2024 concerning the specific conditions for authorising, establishing and operating digital banks, Official Gazette of the Algerian Republic No 77, 19 November , 2024.

⁸Law No 23-09 of 21 June 2023 containing the Monetary and Banking Law, Official Gazette of the Algerian Republic No 43, 27 June , 2023.

The model can be represented analytically as follows: algorithmic risk + effective control + duty of care + harm + causation. This is not a mathematical formula; it is a structured legal framework for organising the liability inquiry ¹.

5.2. Effective Control over the Source of Risk

The criterion of effective control is the model's principal allocation mechanism².

It asks which actor had the actual capacity to prevent, detect or correct the source of risk that materialised³.

This criterion avoids both extremes: imposing all responsibility on the bank merely because it is closest to the customer, or shifting responsibility to a developer without examining whether the developer controlled the relevant defect⁴.

Where the defect lies in the architecture or programming of the system and the developer retained technical control over that architecture, the developer's responsibility may become more significant. Where the system is technically sound but the bank deploys it in an inappropriate context, fails to monitor it or ignores clear warnings, the bank's responsibility is more directly engaged⁵.

Where the problem originates in defective data supplied by another actor, the analysis should examine who controlled the data source and who was responsible for its quality and validation⁶.

Effective control should not be interpreted narrowly as physical or technical control. It includes organisational and contractual control where the actor has the authority and practical capacity to select, configure, monitor, suspend or correct the system⁷.

5.3. Risk Graduation and the Duty of Care

Risk graduation means that the duty of care should become more demanding as the potential severity, scale and foreseeability of harm increase. For high-impact banking decisions, reasonable care may require documented pre-deployment testing, validation against representative data, periodic performance review, bias and accuracy monitoring, cybersecurity controls, incident management and effective human oversight⁸.

The model does not require Algeria to copy the EU's formal risk categories. Instead, the categories can function as a legislative or judicial technique for differentiating the intensity of safeguards.

¹Hajar Yahia, 'Artificial Intelligence-Based Credit Scoring: Challenges, Risks and Future Prospects in Algeria' *Journal of Studies in Economics and Business Administration* 9(1) (2026) p. 385, 385.

²Khadidja Hadj Cherif, 'Civil Liability for Damage Caused by the Use of Artificial Intelligence Technologies in Algerian Legislation: An Analytical Study' *Journal of Comparative Legal Studies* 12(1) (2026) p. 160.

³Baris Soyer and Andrew Tettenborn, 'Artificial Intelligence and Civil Liability—Do We Need a New Regime?' (2022) 30(4) *International Journal of Law and Information Technology* p.p 385, 386.

⁴Montagnani, Najjar and Davola, 9.

⁵Mohamed Bessas and Houria Souiki, 'Civil Liability Regime for Damage Caused by Artificial Intelligence under Algerian Law' *Journal of Legal and Political Thought* 9(1) (2025) p. 34.

⁶Khadidja Hadj Cherif, 'Civil Liability for Damage Caused by the Use of Artificial Intelligence Technologies in Algerian Legislation: An Analytical Study' *Journal of Comparative Legal Studies* 12(1) (2026) p. 160.

⁷Maria Lilla Montagnani, Marie-Claire Najjar and Antonio Davola, 'The EU Regulatory Approach(es) to AI Liability, and its Application to the Financial Services Market' (2024) 53 *Computer Law & Security Review* 105984, 10.

⁸Regulation (EU) 2024/1689, art 6(2), Annex III, point 5(b), and art 14.

Systems capable of materially affecting access to credit or a customer's financial position would warrant a particularly demanding duty of care¹.

5.4. Evidentiary Consequences

Algorithmic disputes create a structural information asymmetry. The bank and technology provider are generally better positioned than the customer to possess logs, model documentation, validation reports, data provenance information and records of human intervention².

A modern liability framework should respond to this asymmetry without abolishing the claimant's burden to establish the elements of the claim³.

A proportionate approach would require preservation of relevant records and facilitate targeted disclosure where the claimant presents credible grounds for alleging a defect or procedural failure. The protection of trade secrets and security information should be preserved, but confidentiality should not become a mechanism for making judicial review practically impossible⁴.

6. Application to Typical Banking Scenarios

6.1. Incorrect Credit Denial

Suppose an AI system incorrectly assesses a customer as lacking sufficient creditworthiness. The first question is not simply whether the output was wrong but why it was wrong. If the bank selected an unsuitable system or relied on known data-quality problems, the bank's duty of care may have been breached. If the error resulted from a programming defect within the developer's control, responsibility may shift toward the developer. If the model was appropriate but the employee ignored an obvious warning generated by the system, human-oversight failure may become central⁵.

6.2. Algorithmic Bias

A discriminatory outcome raises both regulatory and civil questions. The existence of a statistical disparity does not automatically establish civil liability, but it may trigger an investigation into data representativeness, model design, validation and monitoring. A risk-graduated duty of care would require more intensive testing where the foreseeable consequences of error or discrimination are substantial⁶.

6.3. Fraud Detection and Transaction Suspension

AI systems used to detect fraud can produce false positives that suspend legitimate transactions. Here the bank's duty is shaped by the importance of fraud prevention as well as the customer's interest in uninterrupted access to banking services. Appropriate safeguards may include thresholds,

¹Andrea Bertolini, *Artificial Intelligence and Civil Liability: A European Perspective* (European Parliament Study, 2025), p.61.

²Hamza Fellay and Ouahiba Ben Nasser, p. 133.

³Maria Lillà Montagnani, Marie-Claire Najjar and Antonio Davola, 'The EU Regulatory Approach(es) to AI Liability, and its Application to the Financial Services Market' (2024) 53 *Computer Law & Security Review* 105984, 10.

⁴Khadidja Hadj Cherif, 'Civil Liability for Damage Caused by the Use of Artificial Intelligence Technologies in Algerian Legislation: An Analytical Study' *Journal of Comparative Legal Studies* 12(1) (2026) p.162.

⁵Mohamed Bessas and Houria Souiki, 'Civil Liability Regime for Damage Caused by Artificial Intelligence under Algerian Law' *Journal of Legal and Political Thought* 9(1) (2025) p.30.

⁶Bank of Algeria, Regulation No 25-03 of 14 April 2025 concerning the protection of customers of banks, financial institutions and other entities subject to the law, *Official Gazette of the Algerian Republic* No 28, 7 May, 2025.

escalation procedures, human review in sensitive cases and timely mechanisms for correction. Liability should depend on whether the institution adopted and operated a reasonably designed control framework, not merely on the occurrence of a false positive¹.

6.4. Third-Party AI Providers

Outsourcing does not, by itself, transfer responsibility away from the bank².

The bank remains responsible for decisions it makes within its own professional sphere, while the provider may be responsible for defects within its sphere of technical control. Contracts should therefore allocate duties concerning validation, updates, incident reporting, documentation, audit rights and access to information. Such contractual allocation should not, however, automatically determine the rights of customers who were not parties to the contract³.

7. Comparative Assessment and Implications for Algeria

The European experience demonstrates the value of ex ante governance. The AI Act provides a structured vocabulary of risk management, data governance, documentation, human oversight, accuracy, robustness and cybersecurity. These mechanisms can improve the evidentiary position of a claimant and clarify the professional precautions expected from banks⁴.

The European approach should nevertheless not be transplanted literally into Algeria. The institutional architecture, supervisory capacity, banking market and civil-law structure differ. The appropriate approach is selective adaptation. Algeria could, for example, introduce banking-specific rules requiring risk classification, pre-deployment assessment for high-impact systems, periodic testing, documentation, record retention, human review and notification of material AI use in consequential customer decisions⁵.

The comparative lesson is therefore functional: preventive AI governance can strengthen civil liability without turning regulatory law into an automatic compensation regime. A bank that demonstrates robust governance would not receive absolute immunity, but a bank that ignores mandatory safeguards would face a stronger evidentiary case against it⁶.

8. Legislative and Regulatory Recommendations

Adopt a general Algerian framework for AI governance while preserving sector-specific banking rules.

Introduce a risk-based classification of AI applications used by banks, with enhanced safeguards for systems capable of materially affecting customers' access to credit or financial services.

Require documented pre-deployment and periodic risk assessments for high-impact AI systems.

¹Nacira Kheloui, 'Civil Liability in the Age of Artificial Intelligence: An Analytical Study of the Features of a Special Type of Liability' *Journal of Legal and Economic Studies* 8(2) (2025) p. 486.

²Baris Soyer and Andrew Tettenborn, 'Artificial Intelligence and Civil Liability—Do We Need a New Regime?' (2022) 30(4) *International Journal of Law and Information Technology* p. 487.

³Regulation (EU) 2024/1689, art 6(2), Annex III, point 5(b), and art 14.

⁴European Parliament, Resolution of 25 November 2025 on the impact of artificial intelligence on the financial sector, OJ C, 24 April 2026.

⁵Law No. 23-09, Official Gazette No. 43, 27 June 2023, p. 4.

⁶Bank of Algeria, Regulation No 25-03 of 14 April 2025 concerning the protection of customers of banks, financial institutions and other entities subject to the law, Official Gazette of the Algerian Republic No 28, 7 May 2025, 23.

Establish minimum requirements for data quality, governance, validation, performance monitoring, cybersecurity and record-keeping.

Require effective human oversight for high-impact decisions, including sufficient competence and authority to intervene, review and override system outputs.

Create targeted disclosure and evidence-preservation mechanisms for algorithmic disputes while protecting legitimate confidentiality, cybersecurity and trade-secret interests.

Clarify contractual and regulatory responsibilities among banks, developers, technology providers and data suppliers without treating contractual allocation as automatically binding on injured third parties.

Ensure accessible mechanisms for customers to request review, correction and human reconsideration of consequential AI-supported decisions.

Empower the Bank of Algeria to issue technical guidance on algorithmic risk management and to integrate AI-related operational and governance risks into supervisory practice.

Distinguish clearly between regulatory non-compliance and civil liability while allowing applicable regulatory duties to inform the assessment of reasonable care.¹

9. Conclusion

AI does not render traditional civil liability obsolete. It changes the factual and evidentiary environment in which traditional concepts of fault, duty, harm and causation must be applied. In banking, the central challenge is to avoid both an automatic attribution of responsibility to the bank and an unjustified fragmentation of responsibility across developers, technology providers and data suppliers.

The EU AI Act provides an important regulatory reference point because it translates technological risk into concrete governance duties. Its treatment of creditworthiness and credit-scoring systems as high-risk applications, together with requirements concerning risk management, data governance, documentation, logging, accuracy, robustness and human oversight, can inform the assessment of reasonable care. These regulatory duties should not, however, be treated as creating an independent cause of civil action or as automatically establishing liability.

For Algeria, the existing Civil Code, Monetary and Banking Law, data-protection framework and recent Bank of Algeria regulations provide a foundation, but they do not yet form an integrated regime for AI-related civil liability in banking. The regulatory framework should therefore evolve incrementally, preserving established civil-law principles while introducing risk-sensitive governance and evidentiary safeguards.

The risk-graduated model proposed in this article offers a methodology for that development. It does not impose automatic liability merely because AI was used. Instead, it links the intensity of the duty of care to the level of algorithmic risk and allocates responsibility according to effective control over the relevant source of risk, while retaining harm and causation as essential components of the

¹Bank of Algeria, Regulation No 24-04 of 13 October 2024 concerning the specific conditions for authorising, establishing and operating digital banks, Official Gazette of the Algerian Republic No 77, 19 November 2024, 26.

liability inquiry. The model is intended as a doctrinal and legislative framework for further development rather than as a substitute for judicial assessment in individual cases.

References

Primary Sources

Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 laying down harmonised rules on artificial intelligence (Artificial Intelligence Act), OJ L 2024/1689, 12 July 2024.

Order No 75-58 of 26 September 1975 containing the Algerian Civil Code, Official Gazette of the Algerian Republic No 78, 30 September 1975, as amended and supplemented.

Law No 23-09 of 21 June 2023 on Monetary and Banking Law, Official Gazette of the Algerian Republic No 43, 27 June 2023.

Bank of Algeria, Regulation No 25-03 of 14 April 2025 concerning the protection of customers of banks, financial institutions and other entities subject to the law, Official Gazette of the Algerian Republic No 28, 7 May 2025.

Bank of Algeria, Regulation No 24-04 of 13 October 2024 concerning the specific conditions for authorising, establishing and operating digital banks, Official Gazette of the Algerian Republic No 77, 19 November 2024.

European Commission, Proposal for a Directive on adapting non-contractual civil liability rules to artificial intelligence, COM(2022) 496 final (withdrawn 6 October 2025).

Institutional and Policy Sources

European Banking Authority, ‘AI Act: implications for the EU banking and payments sector’ (21 November 2025).

European Banking Authority, ‘Follow-up Report on the Use of Machine Learning for Internal Ratings-Based Models’ (4 August 2023).

European Parliament, ‘Resolution of 25 November 2025 on the impact of artificial intelligence on the financial sector’ (2025/2056(INI)), OJ C C/2026/1701, 24 April 2026.

Andrea Bertolini, Artificial Intelligence and Civil Liability: A European Perspective (European Parliament Study, 2025) <https://doi.org/10.2861/158432>.

OECD, Artificial Intelligence, Machine Learning and Big Data in Finance: Opportunities, Challenges, and Implications for Policy Makers (2021).

Secondary Sources

Maria Lillà Montagnani, Marie-Claire Najjar and Antonio Davola, ‘The EU Regulatory Approach(es) to AI Liability, and its Application to the Financial Services Market’ (2024) 53 Computer Law & Security Review 105984.

Judith Arnal, ‘Unfit for purpose? The legal maze of credit scoring under EU law’ (2026) 27 Journal of Banking Regulation 2.

Baris Soyer and Andrew Tettenborn, ‘Artificial Intelligence and Civil Liability—Do We Need a New Regime?’ (2022) 30(4) International Journal of Law and Information Technology 385–397 <https://doi.org/10.1093/ijlit/eaad001>.

Shu Li and Michael Faure, 'The insurability of AI-related risks: implications from the recent legislation in the European Union' (2025) 50(3) *The Geneva Papers on Risk and Insurance—Issues and Practice* 524–544 <https://doi.org/10.1057/s41288-025-00352-5>.

Teresa Rodríguez de las Heras Ballell, 'Mapping Generative AI rules and liability scenarios in the AI Act, and in the proposed EU liability rules for AI liability' (2025) 1 *Cambridge Forum on AI: Law and Governance* e5.

Mohamed Bessas and Houria Souiki, 'Civil Liability Regime for Damage Caused by Artificial Intelligence under Algerian Law' *Journal of Legal and Political Thought* 9(1) (2025).

Lamia Hamdado, 'Artificial Intelligence and Civil Liability Law: Towards an Independent Regime?' *Journal of Judicial Jurisprudence* 17(2) (2025).

Khadidja Hadj Cherif, 'Civil Liability for Damage Caused by the Use of Artificial Intelligence Technologies in Algerian Legislation: An Analytical Study' *Journal of Comparative Legal Studies* 12(1) (2026).

Nacira Kheloui, 'Civil Liability in the Age of Artificial Intelligence: An Analytical Study of the Features of a Special Type of Liability' *Journal of Legal and Economic Studies* 8(2) (2025).

Hamza Fellay and Ouahiba Ben Nasser, 'An Overview of Tort Liability Based on Fault and Liability for Things in Relation to Artificial Intelligence under Algerian Civil Law' *Algerian Journal of Public and Comparative Law* 11(2) (2025).

Hajar Yahia, 'Artificial Intelligence-Based Credit Scoring: Challenges, Risks and Future Prospects in Algeria' *Journal of Studies in Economics and Business Administration* 9(1) (2026).