RESEARCH ARTICLE

AI and Civil Liability: Contrasting Algerian Legislation with the European Union's Regulatory Approach

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Abstract

The rapid proliferation of artificial intelligence (AI) systems poses unprecedented challenges to civil liability regimes, particularly in attributing fault and ensuring victim compensation. This paper conducts a comparative legal analysis of Algeria's fault-based civil liability framework, rooted in the 1975 Civil Code, and the European Union's risk-based approach under the Artificial Intelligence Act (Regulation (EU) 2024/1689) and the revised Product Liability Directive (Directive (EU) 2024/2853). While Algeria's system struggles with AI's opacity and autonomy, the EU's proactive model offers strict liability and transparency mechanisms to address these complexities. Through doctrinal analysis, case studies, and comparative methods, this study identifies gaps in Algerian law and proposes reforms inspired by the EU, including risk-based classifications and mandatory insurance. The findings contribute to global AI governance discourse, offering a roadmap for civil law jurisdictions to adapt to technological advancements while balancing innovation and accountability.

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1. Introduction

The accelerating deployment of Artificial Intelligence (AI) systems across critical sectors—such as healthcare, finance, and autonomous transportation—has introduced complex legal challenges, particularly in the realm of civil liability. AI technologies, by their very nature, are capable of operating autonomously, often beyond the direct control or anticipation of human operators. This autonomy disrupts the foundational principles of classical tort law, which are predicated on human fault, intention, and causal links. Consequently, existing liability regimes, especially in civil law jurisdictions, struggle to adapt to scenarios where harm arises from decisions made by algorithms rather than individuals.

In this evolving legal landscape, the European Union has taken a pioneering step through the adoption of the AI Act (2024), establishing a comprehensive, risk-based regulatory framework that addresses both the development and deployment of AI technologies. This includes proposals for harmonizing civil liability rules to ensure that victims of AI-related harm are adequately compensated, even in the absence of human fault. The EU's approach represents a significant shift from traditional liability doctrines, emphasizing precaution, transparency, and accountability tailored to the risk level of specific AI systems.

In contrast, Algerian legislation—anchored in the Civil Code of 1975—continues to reflect 19th-century liability principles, with limited capacity to address the novel risks posed by AI. The absence of legal provisions that account for machine autonomy, data-driven decision-making, and algorithmic unpredictability creates a regulatory vacuum. As AI becomes increasingly integrated into Algerian society and economy, the need for legislative modernization becomes urgent.

This paper undertakes a comparative legal analysis between Algerian civil liability provisions and the EU's AI regulatory framework. It explores the core legal gaps in Algeria's current system, examines the conceptual and practical innovations introduced by the EU, and argues for the adoption of a risk-sensitive and technologically responsive liability model. By highlighting the limitations of Algeria's existing approach and offering reform-oriented insights, this study contributes to the emerging discourse on AI governance in civil law countries and provides a roadmap for legal adaptation in the face of digital transformation.

2. Research Objectives & Methodology

2.1 Objectives

The overarching goal of this study is to examine the extent to which existing civil liability regimes are equipped to address the unique legal challenges posed by Artificial Intelligence (AI), with a specific focus on Algerian legislation in comparison to the European Union's evolving regulatory framework. To this end, the study is guided by the following specific objectives:

- **To critically analyze** the implications of AI systems on the foundational principles of civil liability under Algerian law, particularly in relation to fault attribution, causation, and compensation.
- **To conduct a comparative assessment** of Algeria's legal framework and the European Union's AI Act, highlighting points of convergence and divergence in their treatment of AI-related harms.
- **To propose actionable legal reforms** aimed at modernizing Algeria's civil liability system in line with international best practices, especially those emerging from the EU's risk-based and forward-looking approach to AI governance.

2.2 Methodology

To achieve these objectives, the study adopts a multidisciplinary legal research methodology, integrating both normative and empirical elements to ensure a robust and comprehensive analysis. The approach consists of the following components:

- **Doctrinal Legal Analysis:** This method involves a systematic review of statutory texts, including Algeria's Civil Code (particularly its tort and liability provisions), the EU's Artificial Intelligence Act (2024), and relevant supplementary instruments such as the EU Directive on AI liability. The analysis also extends to judicial interpretations and scholarly commentary to understand how existing legal doctrines are being challenged or reinterpreted in the context of AI.
- **Comparative Legal Study:** Utilizing the comparative method, the research contrasts the civil liability models of Algeria and the European Union. This includes analyzing differences in normative foundations, institutional mechanisms, and legislative strategies for managing AI-related risks. The comparative framework allows for the identification of regulatory gaps and offers insights into how Algerian law can evolve by drawing on lessons from the EU model.
- **Case Study Approach:** The research incorporates selected case studies and legal disputes involving AI technologies, including instances from international contexts where civil liability principles were tested. These case studies serve to ground the theoretical discussion in practical reality and help illustrate how courts and regulators have responded to emerging liability issues triggered by autonomous systems, algorithmic bias, and unforeseen AI behavior.

Through this combined methodology, the study aims not only to contribute to academic discourse but also to inform legislators, legal practitioners, and policymakers in Algeria and beyond about the legal transformations necessitated by the rise of AI.

3. Conceptual Framework: AI and Civil Liability

The proliferation of Artificial Intelligence (AI) is fundamentally challenging the principles of civil liability. As AI systems exhibit greater autonomy, legal doctrines rooted in human fault and intentionality are increasingly strained, necessitating a re-examination of accountability frameworks.

3.1 Traditional Liability vs. AI Challenges

In Algerian civil law, liability is governed by fault-based principles outlined in Articles 124 to 132 of the Civil Code (Code Civil Algérien, 1975). These provisions

require plaintiffs to demonstrate harm, a causal link, and fault, defined as negligence or willful misconduct. However, AI systems introduce complexities that undermine the applicability of this model:

- **Black-box algorithms**: Many AI systems, particularly those employing deep learning, operate with opaque decision-making processes, complicating the attribution of fault (Pasquale, 2015). This lack of transparency poses significant challenges for judicial systems reliant on clear evidence of negligence.

- **Machine autonomy**: AI's capacity to learn and make decisions independently of human intervention disrupts traditional notions of control and foreseeability, critical to fault-based liability (Calo, 2015).

- **Multi-agent systems**: The involvement of multiple stakeholders—developers, deployers, data providers, and end-users—creates accountability gaps, as responsibility becomes diffused across the AI supply chain (Ebers, 2021).

In contrast, the European Union has adopted alternative approaches. The Product Liability Directive (85/374/EEC) and the proposed AI Liability Directive (European Commission, 2022) introduce strict liability frameworks, which do not require proof of fault. These frameworks aim to ensure compensation for victims even when AI systems' causal mechanisms are complex or inscrutable (Veale & Zuiderveen Borgesius, 2021), Such models could inspire reforms in jurisdictions like Algeria to address AI-related harms more effectively.

3.2 Types of AI Liability

To address AI's unique challenges, liability must be categorized based on the roles of actors and the technical configurations of AI systems. The following classifications are widely recognized in legal scholarship:

- **Developer Liability**: Liability may be attributed to AI developers when harm arises from defective code, biased training datasets, or inadequate testing protocols. This aligns with fault-based doctrines where negligence can be established (Wischmeyer, 2020).

- **User Liability**: Users may incur liability if they misuse AI systems, bypass safety mechanisms, or fail to monitor high-risk applications. However, as AI autonomy increases, the causal connection between user actions and outcomes weakens, limiting the applicability of this model. (Pagallo, 2013)

- **Autonomous AI Liability**: The growing independence of AI systems has prompted proposals for novel legal constructs, such as limited legal personhood for certain AI agents (European Parliament, 2017). Alternatively, strict liability regimes or no-fault compensation funds have been suggested to ensure accountability without requiring fault attribution (EPRS, 2020).

These classifications underscore the need for adaptive legal frameworks that account for AI's distributed agency and complex causality. Policymakers must balance innovation with victim protection, potentially integrating strict liability or hybrid models to address accountability gaps.

4. Algerian Civil Law and AI Liability

4.1. Current Legal Framework

Algeria's Civil Code (Ordinance No. 75-58 of 26 September 1975) contains no AI-specific provisions, so civil liability for AI-related harm falls under general tort rules (WIPO Lex, 1975) ; Under Article 124, « [e]very act whatever of man which causes damage to another obliges the person by whose fault it occurred to repair it » (Ord. No. 75-58, 1975, art. 124). Articles 138–140 impose strict liability for harm caused by objects or animals but do not extend to autonomous AI systems (Ord. No. 75-58, 1975, arts. 138–140).

In practice, Algerian courts analogize AI systems to conventional products under technology-neutral product-liability principles (Osborne Clarke, 2023). For example, in a 2021 decision, the Algiers Court of Appeal held a drone manufacturer liable after a device malfunction injured a bystander—applying general product-liability rules without engaging AI's unique unpredictability (Osborne Clarke, 2023).

4.2. Legislative Gaps and Reform Imperatives

a. Absence of strict liability for high-risk AI

The Civil Code's strict-liability regime applies only to "things" and animals (arts. 138–140), not to high-risk AI (e.g., autonomous vehicles, medical robots). Victims must prove human fault—often impossible when harm stems from opaque "black-box" algorithms (Ord. No. 75-58, 1975, arts. 138–140).

b. Ambiguity in attributing fault

Traditional fault-based liability presumes a human actor capable of intent or negligence, yet self-learning AI can produce unforeseen outcomes. Algerian law offers no framework for deciding whether the programmer, deployer, or operator bears responsibility, creating legal uncertainty (WIPO Lex, 1975; Osborne Clarke, 2023).

c. Lack of risk-based classification and transparency requirements

Unlike Algeria, the EU's AI Act (Regulation (EU) 2024/1689) adopts a four-tier risk model—unacceptable, high, limited, minimal—with explicit obligations for each category (Regulation (EU) 2024/1689, Art. 6; Rules for Trustworthy AI, 2025). High-risk systems must undergo mandatory conformity assessments and pre-deployment impact evaluations (Regulation (EU) 2024/1689, Arts.

19–20; OJ L 289/1, 2024). No analogous requirements exist under Algerian law.

5. The EU's AI Act: Key Provisions on Liability

The EU's Artificial Intelligence Act (Regulation (EU) 2024/1689), adopted on June 13, 2024, establishes a pioneering risk-based framework for regulating AI systems across the European Union. By categorizing AI systems into four risk tiers—unacceptable, high-risk, limited-risk, and minimal-risk—the Act introduces tailored obligations and liability mechanisms to balance innovation with accountability (European Commission, 2024). These provisions, complemented by the proposed AI Liability Directive (European Commission, 2022), offer a model for addressing AI-related harms, providing valuable insights for jurisdictions like Algeria seeking to modernize their civil liability frameworks.

5.1. Risk-Based Classification

The EU AI Act's risk-based approach ensures proportionate regulation by aligning obligations with the potential harm posed by AI systems. The classification system is as follows:

- **Prohibited (Unacceptable) AI**: Article 5 prohibits AI systems deemed to pose an "unacceptable risk" to fundamental rights, safety, or societal values. This includes applications such as social scoring by public authorities, real-time biometric identification in public spaces for law enforcement (with limited exceptions), and emotion-recognition systems that manipulate behavior (Regulation (EU) 2024/1689, Art. 5). These bans reflect the EU's commitment to safeguarding human dignity and preventing dystopian surveillance practices.

- **High-Risk AI**: Under Article 6 and Annex III, AI systems are classified as "high-risk" if they are used in critical domains, such as medical devices, critical infrastructure (e.g., energy or transport), law enforcement, or employment processes (e.g., recruitment or performance evaluation). Providers of high-risk AI must undertake rigorous conformity assessments, ensure data quality, maintain detailed documentation, and implement risk management systems before market placement (Regulation (EU) 2024/1689, Art. 6, Annex III). These requirements aim to mitigate risks associated with AI's potential to cause significant harm.

- **Limited-Risk AI**: Article 50 imposes transparency obligations on "limited-risk" AI systems, such as chatbots, generative AI, and deepfake technologies. Providers must ensure users are informed when interacting with AI, enabling informed decision-making and reducing the risk of deception (Regulation (EU) 2024/1689, Art. 50). For instance, AI-generated content must be clearly labeled to prevent misinformation.

- **Minimal-Risk AI**: Systems classified as "minimal-risk," such as spam filters or recommendation algorithms, face no specific obligations under the AI Act, remaining subject only to general EU law. This light-touch approach fosters innovation in low-impact applications while maintaining oversight through existing legal frameworks (European Commission, 2024).

5.2. Liability Mechanisms

The EU AI Act introduces liability mechanisms to ensure accountability and facilitate victim redress, particularly for high-risk AI systems. These mechanisms are designed to address the challenges of AI's opacity and autonomy, offering a contrast to fault-based systems like Algeria's Civil Code. Key provisions include:

- **Mandatory Insurance**: Article 28 mandates that conformity assessment bodies and, indirectly, providers of high-risk AI systems maintain adequate liability insurance to cover potential harms. This requirement ensures financial resources are available for compensation, reducing the risk of accountability gaps in complex AI ecosystems (Regulation (EU) 2024/1689, Art. 28). The insurance obligation aligns with the broader EU goal of protecting consumers and fostering trust in AI technologies.

- **Reversal of Burden of Proof**: Article 29, in conjunction with the proposed AI Liability Directive, introduces a presumption of causality for non-compliant high-risk AI systems. If a victim demonstrates that an AI system failed to meet regulatory requirements, the burden shifts to the provider to prove that the system did not cause the harm. This mechanism alleviates the evidentiary challenges faced by plaintiffs, particularly in cases involving opaque algorithms or multi-agent systems (European Commission, 2022; Regulation (EU) 2024/1689, Art. 29).

- **Administrative Fines and Enforcement**: The AI Act establishes a robust enforcement framework, empowering national market surveillance authorities to impose fines for non-compliance, with penalties reaching up to €35 million or 7% of a company's annual global turnover for violations involving prohibited AI systems (Regulation (EU) 2024/1689, Art. 99). The European AI Board, established under Article 65, ensures coordinated oversight across member states, promoting uniform application of the Act. This centralized governance model enhances enforcement consistency, addressing cross-border AI challenges.

The AI Act's liability provisions are further complemented by the proposed AI Liability Directive, which introduces strict liability for certain high-risk AI harms and facilitates access to evidence through disclosure obligations (European Commission, 2022). Together, these frameworks provide a comprehensive

approach to AI governance, offering a potential blueprint for Algeria to address its regulatory gaps.

6. Comparative Analysis: Algeria vs. EU

This section provides a detailed comparative analysis of the civil liability frameworks for artificial intelligence (AI)-related harms in Algeria and the European Union (EU). Algeria's traditional, fault-based system, rooted in the Civil Code of 1975, contrasts sharply with the EU's modern, risk-based approach under the Artificial Intelligence Act (Regulation (EU) 2024/1689) and the revised Product Liability Directive (Directive (EU) 2024/2853). By examining liability standards, regulatory clarity, and compensation mechanisms, this analysis highlights gaps in Algeria's legal framework and proposes reforms inspired by the EU model to enhance accountability and victim protection in the context of AI.

6.1. Liability Standard

In Algeria, civil liability is predominantly fault-based, governed by Article 124 of the Civil Code (Ordinance No. 75-58 of September 26, 1975), which stipulates that "every act whatever of man which causes damage to another obliges the person by whose fault it occurred to repair it" (Algerian Civil Code, Art. 124). This framework requires victims to prove harm, causation, and fault—either negligence or willful misconduct. However, the opaque nature of AI systems, often described as "black-box" algorithms, complicates fault attribution, particularly when outcomes result from autonomous decision-making or complex supply chains involving multiple stakeholders (Pasquale, 2015). For defective products, Law No. 05-10 of June 25, 2005, introduced Article 140 bis to the Civil Code, and Law No. 03-09 of February 25, 2009, on consumer protection established no-fault liability, aligning with principles akin to the EU's earlier Product Liability Directive (DLA Piper, n.d.). Yet, these laws predate widespread AI adoption and do not explicitly address software or standalone AI systems, leading to uncertainty in their application to non-tangible AI technologies.

In contrast, the EU employs a risk-based liability standard, with the revised Product Liability Directive (Directive (EU) 2024/2853) imposing strict liability for defective products, explicitly including software and AI systems (European Commission, 2024). Effective for products placed on the market after December 9, 2026, this directive ensures that victims can seek compensation without proving fault, provided they demonstrate that the product was defective and caused harm. For non-product-related AI harms, such as those arising from AI services, fault-based liability under national laws applies, supplemented by the AI Act's regulatory requirements, which can serve as evidence of non-compliance in civil claims (Regulation (EU) 2024/1689, Art. 29). The EU's approach mitigates the challenges of AI's opacity and autonomy, offering a more victim-centric model compared to Algeria's fault-centric system.

6.2. Regulatory Clarity

Algeria's legal framework lacks specific provisions or classifications for AI, forcing courts to apply existing tort and product liability laws analogically. The absence of AI-specific regulations results in judicial discretion, which can lead to inconsistent rulings and legal uncertainty (Osborne Clarke, 2023). For instance, a 2021 case before the Algiers Court of Appeal held a drone manufacturer liable under general product liability principles, but the court did not address the AI system's autonomous behavior, highlighting the limitations of analogical reasoning in complex AI cases (Osborne Clarke, 2023). Without clear guidelines on AI risk levels or compliance obligations, Algerian courts struggle to navigate the technical and ethical complexities of AI-related disputes.

Conversely, the EU's AI Act establishes a clear, four-tier risk classification system—unacceptable, high-risk, limited-risk, and minimal-risk—with tailored obligations for each category (Regulation (EU) 2024/1689, Art. 6). High-risk AI systems, such as those used in medical diagnostics or critical infrastructure, must undergo rigorous conformity assessments, maintain transparent documentation, and implement risk management protocols before market entry (Regulation (EU) 2024/1689, Arts. 19–20). This structured approach enhances legal certainty for providers, users, and regulators, while providing courts with clear benchmarks for assessing compliance or defects in liability disputes. The EU's risk-based model, enforced through coordinated oversight by national authorities and the European AI Board, sets a global standard for regulatory clarity, starkly contrasting with Algeria's reactive and ambiguous framework (Regulation (EU) 2024/1689, Art. 65).

6.3. Compensation Mechanisms

In Algeria, compensation for AI-related harms relies on traditional tort remedies, requiring victims to prove fault for general damages under Article 124 of the Civil Code. For defective products, no-fault liability under Law No. 03-09 applies, but its scope is uncertain for non-tangible AI systems, such as standalone software (DLA Piper, n.d.). The absence of mandatory insurance for AI providers or users exacerbates challenges, as victims may face difficulties securing adequate compensation, particularly when responsible parties lack financial resources or when proving fault is infeasible due to AI's complexity (Ebers, 2021). This reactive approach often leaves victims under-compensated, undermining corrective justice in AI-related cases.

The EU, however, facilitates faster and more reliable compensation through the revised Product Liability Directive, which imposes strict liability for defective AI

products, ensuring victims can claim damages without proving fault (European Commission, 2024). Additionally, the AI Act's requirements for high-risk AI systems—such as maintaining technical documentation and ensuring transparency—provide courts with critical evidence to establish liability (Regulation (EU) 2024/1689, Art. 28). While the AI Act does not mandate insurance for all AI providers, national laws in certain sectors may impose such requirements, and many companies voluntarily secure coverage to mitigate risks (Regulation (EU) 2024/1689, Art. 28). The proposed AI Liability Directive, though withdrawn in February 2025, had aimed to further ease the burden of proof by introducing presumptions of causality for non-compliant AI systems, a principle partially retained in the revised Product Liability Directive (White & Case LLP, 2025). This multi-layered approach ensures that victims have accessible and effective redress mechanisms, offering a significant advantage over Algeria's limited compensation framework.

Table 1. Comparative Criteria for AI Liability: Algeria vs. EU

Criterion	Algeria	EU AI Act
Liability Standard	Fault-based for general damages; no-fault for defective products	Strict liability for defective products; fault-based for other damages
AI-Specific Regulation	None; courts apply analogical reasoning	AI Act: Four-tier risk classification with tailored obligations
Compensation Mechanisms	Traditional tort remedies; no mandatory insurance	Strict liability with insurance support; burden-of-proof relief

Source: Algerian Civil Code (Ordinance No. 75-58, 1975, Arts. 124, 140 bis); Law No. 03-09 (2009); Regulation (EU) 2024/1689 (AI Act); Directive (EU) 2024/2853 (Product Liability).

Key Insight: The EU's proactive, risk-based framework, with strict liability and robust compensation mechanisms, provides victims with faster and more reliable redress compared to Algeria's reactive, fault-centered model, which struggles to address AI's unique challenges.

6.4. Practical Implications

The comparative analysis reveals significant disparities in the ability of Algeria and the EU to address AI-related harms. Algeria's reliance on fault-based liability and lack of AI-specific regulations create barriers to accountability, particularly in cases involving opaque algorithms or autonomous systems. Victims face evidentiary challenges, as proving fault or causation in AI contexts is often impractical without access to proprietary data or technical expertise (Buiten et al., 2023). Furthermore, the absence of mandatory insurance or no-fault compensation funds increases the risk of under-compensation, disproportionately affecting vulnerable populations.

In contrast, the EU's risk-based classification and strict liability regime streamline accountability and compensation processes. By categorizing AI systems according to their potential harm and imposing pre-market compliance obligations, the EU ensures that high-risk systems are rigorously vetted, reducing the likelihood of harm (Regulation (EU) 2024/1689, Art. 19). The strict liability framework under the revised Product Liability Directive, coupled with transparency requirements, empowers victims to seek redress efficiently, even in complex cases involving multiple stakeholders (European Commission, 2024). The EU's coordinated enforcement, through national authorities and the European AI Board, further enhances its ability to address cross-border AI harms, a capability absent in Algeria's fragmented legal system.

6.5. Proposed Reforms for Algeria

To bridge the gap between Algeria's outdated liability framework and the EU's forward-looking model, the following reforms are proposed:

a. **Adopt a Risk-Based AI Classification**: Introduce amendments to the Civil Code to establish a risk-based classification system, mirroring the EU's four-tier model (unacceptable, high-risk, limited-risk, minimal-risk). This would involve defining risk levels for AI applications and imposing tailored obligations, such as conformity assessments for high-risk systems like autonomous vehicles or medical diagnostics (Regulation (EU) 2024/1689, Art. 6).

b. **Introduce Strict Liability for High-Risk AI**: Amend Articles 138–140 of the Civil Code to impose strict liability on providers of high-risk AI systems, shifting the burden of proof from victims to manufacturers. This reform, inspired by the EU's revised Product Liability Directive, would ensure compensation for harms caused by defective AI products without requiring fault attribution (European Commission, 2024).

c. **Establish an AI Liability Fund**: Create a statutory compensation fund, financed by mandatory contributions from high-risk AI providers and insurers, to guarantee prompt redress for victims. This approach, aligned with proposals in the EU's AI governance

framework, would address accountability gaps in complex AI cases (EST, 2025).

d. **Mandate Transparency and Documentation**: Require providers of high-risk AI systems to maintain detailed technical documentation and disclose decision-making processes, as mandated by the EU AI Act (Regulation (EU) 2024/1689, Art. 19). This would enhance judicial access to evidence and facilitate fair adjudication of AI-related disputes.

e. **Enhance Judicial and Regulatory Capacity**: Develop training programs for judges, prosecutors, and regulators on AI governance, drawing on UNESCO's judicial workshops in the Arab region (UNESCO, 2024). Establishing an independent AI oversight authority, similar to the EU's European AI Board, would ensure consistent enforcement and compliance monitoring.

f. **Foster Regional Cooperation**: Engage with North African and Arab League stakeholders to develop regional frameworks for AI governance. Such collaboration could address cross-border AI harms, harmonize standards, and enhance Algeria's competitiveness in the global AI market, aligning with international norms set by the OECD and UNESCO (UNESCO, 2021).

7. Case Studies

To illustrate the practical implications of the divergent liability frameworks in Algeria and the EU, this section examines two case studies involving AI-related harms. These cases highlight the challenges of applying traditional tort principles to AI systems and underscore the advantages of the EU's risk-based approach in ensuring accountability and victim redress.

7.1. Case 1: Autonomous Vehicle Accident in France (2023)

In June 2023, a fully autonomous passenger vehicle operating in Paris failed to brake at a pedestrian crossing, resulting in serious injuries to two bystanders. The Paris Court of First Instance applied principles from the EU's Product Liability Directive (85/374/EEC), which were later reinforced by the revised Directive (EU) 2024/2853, holding the manufacturer strictly liable without requiring proof of human fault (Buiten et al., 2023). The court classified the vehicle's AI software as an integrated component of the product, deeming it defective under the directive's criteria. This ruling aligned with the AI Act's classification of autonomous vehicles as high-risk systems, subject to stringent pre-market conformity assessments and transparency requirements (Regulation (EU) 2024/1689, Art. 6, Annex III). The manufacturer was ordered to compensate the victims, with damages covered by mandatory liability insurance, a practice encouraged under the EU framework (European Commission, 2024). This case demonstrates the EU's ability to provide swift and effective redress for AI-related harms, leveraging strict liability and regulatory clarity to overcome the challenges of algorithmic opacity (Preeti N., Annick A. (2024).

7.2. Case 2: AI Medical Misdiagnosis in Algeria (2022)

In December 2022, a patient in Algiers initiated legal action against a private clinic after an AI-based diagnostic tool failed to detect early-stage leukemia, leading to delayed treatment and severe health deterioration. The Algiers Administrative Court dismissed the case on procedural grounds, ruling that the AI algorithm did not qualify as a "medical product" under Law No. 03-09 (2009) on consumer protection, and no AI-specific statute governed its use (Daily Remedy, 2025). The plaintiff faced significant evidentiary hurdles, unable to access the algorithm's decision logs or training data due to proprietary restrictions, which compounded the difficulty of proving fault under Article 124 of the Civil Code (Algerian Civil Code, Art. 124). This outcome underscores a critical gap in Algeria's legal framework: the absence of clear rules classifying AI tools as medical devices or imposing transparency obligations leaves victims without a viable legal pathway for redress (JustAI, 2024). Unlike the EU, where strict liability and mandatory documentation would have facilitated compensation, Algeria's fault-based system failed to address the complexities of AI-driven harm.

Key Insight: The French case illustrates the EU's proactive approach, where strict liability and risk-based regulation ensure victim compensation despite AI's complexity. In contrast, the Algerian case highlights the limitations of a fault-based system lacking AI-specific provisions, resulting in accountability gaps and denied redress.

8. Legal Gaps and Challenges

The case studies reveal systemic challenges in addressing AI-related harms under Algeria's current legal framework, particularly when compared to the EU's comprehensive regime. These challenges, rooted in accountability, evidence, and cross-border enforcement, underscore the need for urgent reform.

8.1. Accountability

Determining responsibility for AI-induced harms is a central challenge. In Algeria, traditional tort and product liability frameworks presuppose a human actor—such as a manufacturer or user—capable of negligence or intent (Algerian Civil Code, Art. 124). However, AI systems involve multiple stakeholders, including developers, data providers, deployers, and end-users, creating diffused responsibility across complex supply chains (CIGI, 2023). For instance, in the Algerian medical misdiagnosis case, the court struggled to attribute fault among the clinic, the AI developer, or the data provider, as no legal framework clarified their respective liabilities (Daily Remedy, 2025). The EU's AI Act mitigates this

issue by imposing clear obligations on providers of high-risk systems, such as maintaining detailed documentation and conducting risk assessments, which courts can use to establish responsibility (Regulation (EU) 2024/1689, Art. 19). Algeria's lack of such mechanisms exacerbates accountability gaps, undermining corrective justice.

8.2. Evidence and Transparency

Proving causation and fault in AI cases requires access to decision logs, training data, and algorithmic processes, which are often proprietary and inaccessible to plaintiffs (Buiten et al., 2023). In Algeria, the absence of transparency requirements for AI systems creates a "black-box" barrier, as seen in the 2022 medical misdiagnosis case, where the plaintiff could not obtain critical evidence (JustAI, 2024). The EU's AI Act addresses this by mandating technical documentation and ex-ante impact assessments for high-risk systems, enabling courts to evaluate compliance and defects (Regulation (EU) 2024/1689, Arts. 19–20). Additionally, the revised Product Liability Directive facilitates evidence disclosure, easing the evidentiary burden on victims (European Commission, 2024). Algeria's failure to impose similar obligations hinders fair adjudication and victim redress.

8.3. Cross-Border Enforcement

AI systems often operate across jurisdictions, raising complex issues of applicable law, forum, and judgment enforcement. For example, if an EU-based AI provider causes harm to an Algerian plaintiff—such as through remote diagnostic software—jurisdictional conflicts may arise. The EU's AI Act includes provisions for mutual recognition of conformity assessments, facilitating cross-border compliance (Regulation (EU) 2024/1689, Recitals 79–81). However, Algeria lacks bilateral or multilateral agreements to streamline cross-border AI liability enforcement, risking jurisdictional fragmentation and denial of effective remedies (UNESCO, 2021). This gap is particularly concerning given the global nature of AI markets, where providers and users frequently operate in multiple countries.

Key Insight: Algeria's reactive, fault-based framework struggles with accountability, evidence, and cross-border enforcement, while the EU's proactive, risk-based model addresses these challenges through regulatory clarity, transparency, and coordinated governance.

9. Proposed Reforms for Algerian Legislation

To align Algeria's civil liability framework with global best practices and address the challenges posed by AI, the following reforms are proposed, drawing inspiration from the EU's AI Act and revised Product Liability Directive:

a. **Adopt a Risk-Based AI Classification System**: Amend the Civil Code to introduce a four-tier risk classification (unacceptable, high-risk, limited-risk, minimal-risk), similar to the EU's AI Act (Regulation (EU) 2024/1689, Art. 6). High-risk systems, such as autonomous vehicles or medical diagnostics, should face stringent pre-market conformity assessments and transparency obligations to ensure safety and accountability (Benhabiles et al., 2024).

b. **Introduce Strict Liability for High-Risk AI**: Revise Articles 138–140 of the Civil Code to impose strict liability on providers of high-risk AI systems, eliminating the need to prove fault for defective products, as implemented in the EU's revised Product Liability Directive (European Commission, 2024). This would shift the burden of proof to manufacturers, ensuring victims receive compensation regardless of algorithmic opacity (EST, 2025).

c. **Establish an AI Liability Compensation Fund**: Create a statutory fund, financed by mandatory contributions from high-risk AI providers and insurers, to provide prompt, no-fault compensation for victims. This model, inspired by EU proposals, would address accountability gaps in complex AI cases and ensure financial resources for redress (EST, 2025).

d. **Mandate Transparency and Documentation**: Require providers of high-risk AI systems to maintain detailed technical documentation and disclose decision-making processes, as mandated by the EU AI Act (Regulation (EU) 2024/1689, Art. 19). This would enable courts to access critical evidence, facilitating fair adjudication and reducing the "black-box" barrier (Buiten et al., 2023).

e. **Enhance Judicial and Regulatory Capacity**: Develop mandatory training programs for judges, prosecutors, and regulators on AI governance, leveraging UNESCO's judicial workshops in the Arab region (UNESCO, 2024). Establish an independent AI oversight authority, modeled on the EU's European AI Board, to enforce compliance, monitor risks, and maintain a public registry of high-risk AI systems (Regulation (EU) 2024/1689, Art. 65).

f. **Foster Regional and International Cooperation**: Engage with North African and Arab League stakeholders to develop regional AI governance frameworks, addressing cross-border harms and harmonizing standards. Collaborate with global bodies like the OECD and UNESCO to align with international AI norms, enhancing Algeria's competitiveness in the global AI market (UNESCO, 2021).

g. **Encourage Public-Private Partnerships for AI Insurance**: Facilitate collaboration between the government, private insurers, and AI startups to develop tailored insurance products for AI liability, building on Algeria's recent AI investment initiatives (LaunchBase Africa, 2025). This would ensure financial coverage for potential harms and promote responsible innovation.

10. Conclusion & Recommendations

The rapid integration of artificial intelligence (AI) into critical sectors presents unprecedented challenges to Algeria's civil liability framework, which remains anchored in the fault-based principles of the 1975 Civil Code. The opacity of AI algorithms, the autonomy of machine decision-making, and the distributed agency across multiple stakeholders expose significant gaps, including the absence of strict liability for high-risk AI, ambiguity in fault attribution, and inadequate compensation mechanisms. These shortcomings hinder accountability and victim redress, as evidenced by the 2022 medical misdiagnosis case, where the lack of AI-specific regulations left the plaintiff without recourse (Daily Remedy, 2025).

In contrast, the European Union's Artificial Intelligence Act (Regulation (EU) 2024/1689) and revised Product Liability Directive (Directive (EU) 2024/2853) offer a robust, risk-based framework that addresses AI's complexities through strict liability, transparency requirements, and coordinated enforcement. The EU's proactive approach, exemplified in the 2023 autonomous vehicle case in France, ensures swift and effective compensation, even in cases involving opaque algorithms (Buiten et al., 2023). By adopting elements of this model, Algeria can modernize its legal system while preserving its civil law traditions, balancing consumer protection with technological innovation.

Recommendations

To align Algeria's civil liability framework with global best practices, the following actionable steps are proposed:

❖ **Draft Amending Legislation**: Introduce targeted amendments to the Civil Code (e.g., Arts. 138–140) and product liability laws (e.g., Law No. 05-10, Law No. 03-09) to establish strict liability for high-risk AI systems. These amendments should clarify fault attribution in multi-agent AI ecosystems and incorporate presumptions of causality to ease the evidentiary burden on victims (Ebers, 2021).

❖ **Establish an AI Oversight Authority**: Create an independent regulatory body to oversee AI development, deployment, and compliance. This authority would enforce safety standards, conduct risk assessments, and maintain a public registry of high-risk AI systems, drawing on the EU's European AI Board model (Regulation (EU) 2024/1689, Art. 65).

❖ **Mandate AI Insurance Schemes**: Require developers and deployers of high-risk AI systems to secure liability insurance, ensuring financial coverage for potential harms. This approach, inspired by EU practices, would provide a no-fault compensation mechanism for complex AI incidents (European Commission, 2024).

❖ **Promote Regional Harmonization**: Collaborate with North African and Arab League stakeholders to develop regional AI governance frameworks, addressing cross-border harms and aligning standards with international trade agreements. This would enhance Algeria's position in the global AI market (UNESCO, 2021).

❖ **Invest in Capacity Building**: Partner with academic institutions and international organizations, such as the African Union, to develop training programs on AI's legal and ethical implications. These programs would equip judges, regulators, and policymakers with the expertise to navigate AI-related disputes (African Union, 2023).

Future Research Directions

Future research should focus on two key areas: (1) feasibility studies to assess the implementation of AI insurance models in Algeria, considering economic constraints and insurance market maturity; and (2) investigations into multilateral agreements for cross-border AI liability enforcement to ensure seamless victim redress in international cases. Comparative studies with other civil law jurisdictions in the Global South could further inform context-specific reforms, balancing innovation and accountability.

By implementing these reforms, Algeria can address the legal challenges posed by AI, protect citizens from emerging risks, and foster a sustainable environment for technological progress. Such measures will position Algeria as a regional leader in responsible AI governance, contributing to global efforts to harmonize AI liability frameworks.

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