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CHAPTER 17

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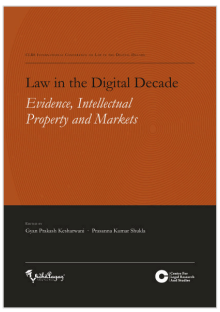

Ashutosh Mani Pathak

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CHAPTER 17

Algorithmic Decision Making and Corporate Insolvency: The Future of Creditor Control in the Digital Decade

ASHUTOSH MANI PATHAK*

Artificial intelligence, machine learning and predictive analytics increasingly support credit monitoring, risk assessment and aspects of corporate insolvency administration. Existing research identifies emerging uses of artificial intelligence in tasks involving claims, investigations, asset management and financial analysis, while emphasising both potential efficiency gains and concerns regarding the accuracy of algorithmic outputs. These developments raise a distinct legal question within creditor-controlled insolvency systems: when creditor decisions are materially influenced by algorithmic recommendations, under what conditions should those decisions remain protected by the judicial restraint traditionally associated with commercial wisdom?[1]

This paper examines the relationship between algorithmic decision-support, creditor control and commercial judgment under Indian corporate insolvency law. It does not claim that Committees of Creditors presently delegate votes or resolution decisions to autonomous systems. Instead, it addresses the legally significant continuum between existing digital risk assessment and the increasing capacity of algorithmic tools to influence valuation, recovery analysis, viability assessment and comparison of resolution alternatives. The paper distinguishes routine automated execution from algorithmic decision support and autonomous decision making, arguing that legal scrutiny should correspond to the materiality of technological influence.

Using doctrinal analysis of the Insolvency and Bankruptcy Code, 2016 and commercial wisdom jurisprudence, together with a functional comparison of emerging European and Indian digital regulation principles, the paper evaluates the benefits and risks of algorithmically informed creditor control. The analysis identifies earlier distress detection, improved information processing and administrative efficiency as potential benefits, but highlights opacity, automation bias, deficient data, unequal technological capacity and fragmented responsibility as threats to procedural legitimacy. The European Union Artificial Intelligence Act and the Reserve Bank of India's Digital Lending Directions, 2025 are used as regulatory analogies rather than as rules directly governing insolvency voting.[2]

The paper argues that reliance upon algorithmic assistance does not itself undermine commercial wisdom. The difficulty arises where opaque technological recommendations substitute for meaningful creditor evaluation or prevent affected stakeholders from identifying material errors. It proposes a framework of responsible algorithmic creditor control founded upon material-use disclosure, human-in-command oversight, auditability, model validation, identifiable responsibility and proportionate contestability. Artificial intelligence may augment creditor judgment, but it should not displace the human responsibility upon which creditor control and legitimate judicial restraint depend.

Keywords: Artificial Intelligence; Corporate Insolvency; Committee of Creditors; Commercial Wisdom; Algorithmic Decision Support; Creditor Control; Explainable AI; Human Oversight.

* PhD Research Scholar at National Law University Odisha, Cuttack, Odisha, India.

[1] Felix Steffek, *A Story of Two Holy Grails: How Artificial Intelligence Will Change the Design and Use of Corporate Insolvency Law*, U. CHI. L. REV. ONLINE (2024); Kayode Akintola, *A New Frontier? Exploring Artificial Intelligence in Corporate Insolvency*, 15 LAWS 79 (2026).

[2] Regulation (EU) 2024/1689 (Artificial Intelligence Act), arts. 9–15, annex III ¶ 5(b); Reserve Bank of India, RBI (Digital Lending) Directions, 2025, RBI/2025-26/36, DOR.STR.REC.19/21.07.001/2025-26 (May 8, 2025).

1 INTRODUCTION: INSOLVENCY GOVERNANCE ENTERS THE DIGITAL DECADE

Corporate insolvency law allocates decision making authority during periods of acute financial distress. Once a company can no longer meet its obligations in an orderly manner, the legal system determines who should control the future of the enterprise, how competing claims should be evaluated and whether restructuring or liquidation offers the more appropriate outcome. Under the Insolvency and Bankruptcy Code, 2016, these questions are answered principally through institutions governed by human judgment. Financial creditors exercise commercial authority through the Committee of Creditors, insolvency professionals administer the process and adjudicatory institutions supervise compliance with statutory requirements. The informational foundations of these decisions, however, are increasingly shaped by artificial intelligence, machine learning, predictive analytics and automated decision support systems.[3]

Algorithmic tools are already changing how credit risk is assessed, monitored and managed. Credit scoring systems, behavioral analytics, automated risk management platforms and early warning models enable financial institutions to process large volumes of transactional, operational and market information. The Reserve Bank of India's Digital Lending Directions, 2025 expressly regulate matters including creditworthiness assessment, borrower disclosure, data collection, privacy and technology standards within digital lending. These developments demonstrate that algorithmic systems already influence important aspects of the creditor-debtor relationship before insolvency begins. Their potential relevance does not end when financial distress develops. The same analytical capabilities may support claims administration, investigation, valuation, recovery estimation and assessment of restructuring alternatives.[4]

Emerging research confirms some use of artificial intelligence in corporate insolvency proceedings, including in tasks connected with investigations, asset management and creditor claims. Akintola's survey-based study reports that efficiency is a principal rationale for such use, while doubts regarding the accuracy of algorithmic outputs remain a central concern. Steffek separately examines how artificial intelligence may affect corporate insolvency law by improving prediction of legal outcomes and the design of contracts concerning financial distress. These contributions establish that artificial intelligence has practical and theoretical significance for insolvency law. They do not, however, fully address how material reliance upon algorithmic recommendations affects the legitimacy of creditor control or the judicial restraint traditionally associated with the Committee's commercial wisdom.[5]

This paper does not assume that Indian Committees of Creditors presently delegate votes or resolution decisions to autonomous systems. Nor does it claim that algorithmic systems have displaced human representatives within the statutory architecture of the IBC. Its concern is the legally significant continuum between existing digital risk assessment and the increasing technical capacity of algorithms to influence valuation, cash flow modelling, recovery analysis, viability assessment and comparison of resolution alternatives. At one end of this continuum, automated systems perform routine administrative tasks according to predetermined instructions. At the other, an algorithm may effectively determine an outcome without meaningful human evaluation. Between these extremes lies algorithmic decision support, where formal authority remains human but the assumptions, rankings and recommendations underlying the decision are materially shaped by technology.

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[3] Insolvency and Bankruptcy Code, 2016, §§ 21, 24, 28, 30, 31.

[4] Reserve Bank of India, RBI (Digital Lending) Directions, 2025, RBI/2025-26/36, DOR.STR.REC.19/21.07.001/2025-26, chs. III–IV (May 8, 2025).

[5] Steffek, *A Story of Two Holy Grails*; Akintola, *A New Frontier?*.

This middle category creates a practical difficulty for creditor-controlled insolvency. The Supreme Court's commercial wisdom jurisprudence recognizes the primacy of the Committee's assessment of feasibility, viability and commercial outcomes, while confining adjudicatory review principally to the statutory boundaries imposed by the Code. Judicial restraint is justified not simply because a vote has been formally cast by creditors, but because financial creditors are presumed to possess the expertise, information and economic incentive necessary to make informed commercial assessments. Reliance upon technology does not by itself contradict that premise. Creditors already depend upon valuations, financial advisers, technical reports and internal risk systems. The difficulty arises when reliance becomes abdication: where creditor representatives accept an algorithmic recommendation without meaningful inquiry, cannot identify the material assumptions underlying it or are unable to depart from its conclusion.[6]

The difficulty becomes sharper because of opacity and unequal technological capacity. Imagine a creditor rejecting a resolution proposal because an internal model predicts weak recovery. The corporate debtor, operational creditors and even the resolution professional may know the result without knowing which assumptions or data limitations produced it. Historical or incomplete data may distort the recommendation, while automation bias may make a numerical output appear more objective than it really is. Large institutions may also have proprietary models and specialist teams that smaller creditors and other stakeholders cannot match. Technology can therefore reduce one information gap while creating another.[7]

Regulatory developments outside insolvency law offer useful, though limited, guidance. The European Union Artificial Intelligence Act adopts a risk-based framework and classifies specified AI systems used to evaluate the creditworthiness of natural persons or establish credit scores as high-risk. It also establishes requirements regarding risk management, data governance, documentation, transparency, human oversight, accuracy and robustness for high-risk systems. An algorithm used by a corporate creditor to evaluate an insolvency resolution plan does not automatically fall within that listed natural person creditworthiness category. The Regulation is therefore relevant here as a source of governance principles rather than as a rule directly governing Committee of Creditors voting. Similarly, the RBI Digital Lending Directions regulate lending activity rather than collective insolvency decision making. Their significance lies in the principle that regulated institutions retain responsibility for technology enabled financial activity and cannot transfer accountability entirely to technology vendors.[8]

Against this background, the primary question addressed by this paper is: when creditor decisions are materially influenced by algorithmic recommendations, under what conditions should those decisions remain protected by the judicial restraint traditionally associated with commercial wisdom? Two subsidiary questions follow. First, which forms of algorithmic involvement are sufficiently influential to require legal safeguards? Secondly, what standards of disclosure, oversight, auditability, validation, responsibility and contestability are required to preserve meaningful human commercial judgment?

The paper uses doctrinal analysis of the IBC and the Supreme Court's commercial wisdom jurisprudence, functional analysis of algorithmic involvement in insolvency related decision making and

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[6] K. Sashidhar v. Indian Overseas Bank, (2019) 12 SCC 150; Comm. of Creditors of Essar Steel India Ltd. v. Satish Kumar Gupta, (2020) 8 SCC 531.

[7] Linda J. Skitka, Kathleen L. Mosier & Mark Burdick, *Does Automation Bias Decision-Making?*, 51 INT'L J. HUM.-COMPUT. STUD. 991–1006 (1999).

[8] Regulation (EU) 2024/1689 (Artificial Intelligence Act), arts. 9–15, annex III ¶ 5(b); RBI Digital Lending Directions, 2025, chs. III–IV.

comparative examination of emerging European and Indian digital regulation principles. Its contribution is narrower than a general account of artificial intelligence in corporate insolvency. It argues that the legitimacy of algorithmically informed creditor control depends upon whether legal authority remains connected to meaningful human evaluation and identifiable responsibility. The paper therefore proposes a framework of responsible algorithmic creditor control founded upon material-use disclosure, human-in-command oversight, auditability, model validation, functional allocation of responsibility and proportionate contestability. Artificial intelligence may strengthen the informational basis of creditor judgment, but it should not replace the human responsibility upon which creditor control and legitimate judicial restraint depend.

2 FROM CREDITOR CONTROL TO ALGORITHMICALLY INFORMED CREDITOR CONTROL

Corporate insolvency law does more than provide remedies for unpaid debt. It reallocates control over a distressed enterprise and determines which actors may decide whether the business should be restructured, sold or liquidated. Modern insolvency regimes commonly employ collective decision-making structures because individual enforcement may fragment enterprise value and produce outcomes that are inferior to coordinated resolution. The allocation of authority therefore lies at the centre of insolvency governance.

The Insolvency and Bankruptcy Code, 2016 adopts a creditor-in-control model for the corporate insolvency resolution process. Following commencement, the powers of the board of directors are suspended and the management of the corporate debtor is entrusted to the interim resolution professional and, subsequently, the resolution professional. Financial creditors constitute the Committee of Creditors, which functions as the principal commercial decision-making body within the resolution process. The Committee may take decisions on matters requiring its approval, evaluate resolution plans and determine whether the available proposals offer a feasible and viable basis for preserving or reorganising the corporate debtor.[9]

The statutory architecture distributes authority among three principal institutions. The Committee exercises commercial decision-making power. The resolution professional administers the process, collates and verifies claims, manages the corporate debtor as a going concern, prepares relevant information and facilitates the receipt and consideration of resolution plans. The National Company Law Tribunal exercises adjudicatory supervision, including examination of whether an approved plan complies with the requirements prescribed by the Code. This allocation separates commercial evaluation from process administration and legal supervision.[10]

The 2026 amendments retain this basic distribution while modifying parts of the resolution architecture. Among other reforms, the amended framework strengthens procedural timelines, introduces a creditor-initiated insolvency resolution process, requires the Committee to record reasons for approving resolution plans and revises aspects of plan approval and implementation. These developments strengthen the importance of documented creditor decision-making but do not replace the Committee as the central institution responsible for commercial evaluation. The current analysis should therefore be understood

[9] Insolvency and Bankruptcy Code, 2016, §§ 17, 21, 24, 28, 30.
[10] *Id.* §§ 18, 25, 30, 31.

as applying to creditor decisions under the amended framework as well as to the conventional corporate insolvency resolution process.[11]

Judicial interpretation has reinforced the centrality of CoC commercial judgment. In *K. Sashidhar v. Indian Overseas Bank*, the Supreme Court rejected substantive judicial substitution of the commercial determination made by the Committee. In *Committee of Creditors of Essar Steel India Ltd. v. Satish Kumar Gupta*, the Court reaffirmed the primacy of the CoC's assessment of feasibility, viability and distribution, while recognising the statutory limits within which that assessment must operate. The tribunal's task is not to formulate the commercial outcome that it considers preferable, but to examine whether the decision and the resulting plan satisfy the requirements imposed by the Code. This restraint is reinforced by *Swiss Ribbons*, *Maharashtra Seamless* and *Kalpraj Dharamshi*, which place commercial evaluation with creditors and limit judicial re-assessment of plan value or comparative merits.[12]

This approach is usually described as "commercial wisdom". That expression should not be understood as an assertion that creditor decisions are infallible or immune from every legal constraint. It describes the location of commercial authority within the statutory process and the correspondingly restrained role of adjudicatory institutions in reviewing commercial merits. The Committee remains subject to statutory voting requirements, plan compliance provisions, procedural obligations and the limited review expressly contemplated by the Code.

Creditor control rests on several connected assumptions. Financial exposure gives creditors an incentive to preserve and maximise value. Financial institutions may possess experience in credit evaluation, restructuring and assessment of commercial risk. Collective decision-making can reduce coordination problems among creditors. Commercial questions concerning viability, recoveries and restructuring may also be less suitable for determination through broad judicial discretion. These propositions support judicial restraint only where the Committee's decision represents a genuine exercise of informed commercial judgment.

It is important to distinguish decision authority and decision influence. Decision authority concerns the legal power to vote, approve a resolution plan or determine whether liquidation should be pursued. Decision influence concerns the information, assumptions, professional advice, valuation reports, risk assessments and analytical tools that shape how that legal power is exercised. A creditor does not surrender its authority merely because it relies upon advice or technology. Creditors have always depended upon financial experts, valuers, legal advisers and internal risk systems. The relevant inquiry is whether those inputs assist the exercise of commercial judgment or effectively substitute for it.

Algorithmic technologies intensify this distinction. Credit risk models, predictive analytics, machine learning applications and automated valuation tools may identify patterns, estimate outcomes and recommend preferred alternatives. Even where an algorithm possesses no legal power to vote, its output may determine which risks are emphasised, which scenarios are considered credible and which resolution proposal appears commercially preferable. Formal authority remains with the creditor, but the informational architecture underlying the decision may increasingly be technological.

This does not suggest that algorithmic influence necessarily diminishes creditor control. A well-designed system may improve the quality, speed and consistency of information available to a creditor

[11] Insolvency and Bankruptcy Code, 2016, §§ 17, 21, 24, 28, 30; Insolvency and Bankruptcy Code (Amendment) Act, 2026.

[12] *K. Sashidhar*; *Essar Steel*; Swiss Ribbons Pvt. Ltd. v. Union of India, (2019) 4 SCC 17; Maharashtra Seamless Ltd. v. Padmanabhan Venkatesh, (2020) 11 SCC 467; Kalpraj Dharamshi v. Kotak Inv. Advisors Ltd., (2021) 10 SCC 401.

representative. The concern arises where technological influence becomes sufficiently dominant that meaningful human evaluation cannot be demonstrated. If representatives do not understand the system's function, cannot examine material assumptions, fail to consider relevant limitations or treat the recommendation as conclusive, decision support may become an abdication of judgment. The legal problem is therefore not the presence of an algorithm but the absence of meaningful human commercial assessment.

Algorithmic systems may enter before insolvency through credit assessment, transaction monitoring, covenant review and risk management. They may identify deterioration and influence forbearance, enforcement or restructuring engagement, but remain informational inputs rather than legal findings of default or viability.[13]

They may also organise contractual records, payment histories and evidentiary material relevant to commencement. This role is primarily administrative; responsibility for commencing proceedings and proving statutory conditions remains with the actors identified by the Code.

Evidence of current use is strongest in process support. Artificial intelligence may assist insolvency professionals and advisers with claims administration, document management, anomaly detection, asset tracing and transaction review. These tools expand investigative capacity but support rather than replace legal and professional determination; their influence on creditors is often indirect through reports prepared by professionals, valuers and advisers.[14]

During plan evaluation, computational tools may estimate recovery ranges, test cash flow assumptions and compare restructuring alternatives. Current evidence does not establish routine autonomous ranking of Indian resolution plans, so these applications should be treated as emerging decision support. Their design may nevertheless privilege immediate recovery over resilience, employment continuity or longer-term viability.

Three degrees of involvement should be distinguished. Automated execution performs routine tasks under predetermined instructions. Algorithmic decision support produces predictions, scores or recommendations while authority remains human. Autonomous decision-making effectively determines the outcome without meaningful consideration or practical override. The classification is functional: a nominally advisory tool may operate autonomously if its outputs are routinely accepted without examination.

Responsibility must remain with the actor exercising legal or professional authority. Creditors remain accountable for votes, professionals for statutory functions, advisers for their analyses and vendors for matters within system design and performance obligations. Meaningful override requires sufficient understanding to question outputs, examine assumptions, recognise limitations and depart from a recommendation. Algorithms become problematic only when material and opaque influence makes independent commercial judgment unidentifiable.

3 THE PROMISE OF ALGORITHMIC INSOLVENCY GOVERNANCE

Debate about AI often begins with risk, but this should not obscure why algorithmic technologies attract attention. Insolvency takes place under information asymmetry, time pressure and uncertainty. Stakeholders must evaluate complex data while making decisions affecting enterprise survival and loss allocation.

[13] RBI Digital Lending Directions, 2025, chs. III–IV.
[14] Akintola, *A New Frontier?*.

A principal advantage is the capacity to detect financial deterioration earlier than traditional monitoring. Predictive analytics may identify missed obligations, liquidity pressures, deteriorating cash flow and covenant breaches. Systems can continuously examine transactional and operational information rather than await periodic reviews. In theory, they permit intervention before distress develops into full-scale insolvency.[15]

This capacity is significant because delay destroys value. As distress deepens, assets deteriorate, customers leave, financing contracts and restructuring prospects weaken. The Bankruptcy Law Reforms Committee identified delay as a serious weakness of the prior insolvency system and emphasised early intervention in preserving enterprise value. Algorithms capable of identifying deterioration may therefore support one of the central objectives of modern insolvency law.[16]

Their value does not lie in declaring insolvency automatically. Insolvency remains a legal determination requiring human judgment and institutional oversight. Their principal benefit is informational: alerting creditors, management and professionals to developing risks while corrective action remains feasible. They are most valuable when they facilitate human intervention rather than replace it.

Information asymmetry is a persistent problem. Management generally possesses superior knowledge of operations, liquidity, obligations and prospects, while creditors and other stakeholders make decisions on incomplete information. Creditors may struggle to evaluate a restructuring plan, determine asset value or assess the credibility of management projections.

The creditor-in-control model presupposes informed commercial judgment, yet Committee members may need to review extensive documentation, operational records and financial information. The challenge is not merely obtaining information but identifying what matters. Algorithmic systems may enhance capacity by identifying patterns, anomalies and relevant information across large datasets. They may supplement commercial judgment rather than replace it.

Their value is evident in valuation and recovery analysis. Creditors compare future outcomes, assess whether restructuring offers a better return than liquidation and examine projected cash flows. Algorithmic tools may supplement financial reports and expert opinions through analysis of historical performance, sectoral trends and scenarios. Shared analytical tools might also help smaller creditors understand plan assumptions and recovery ranges.

Further, suppose the Committee is comparing two plans: one offers higher immediate payment, while the other keeps more of the business and workforce intact but pays creditors over a longer period. An analytical model may test cash flows, sector trends and likely recovery under each option. Used carefully, it can sharpen the discussion and help smaller creditors understand the range of outcomes. It should not, however, be treated as a neutral answer to a question that still requires commercial judgment.[17]

AI also promises consistency and administrative efficiency. Insolvency professionals, creditors and tribunals process large quantities of records under time constraints. Technologies can classify documents, reconcile claims, identify unusual transactions and extract relevant provisions. Artificial intelligence may reduce administrative burdens and allow human actors to focus on legal and commercial judgment.[18]

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[15] *Id.*

[16] BANKRUPTCY LAW REFORMS COMM., THE REPORT OF THE BANKRUPTCY LAW REFORMS COMMITTEE, VOLUME I: RATIONALE AND DESIGN chs. 3–4 (Nov. 2015).

[17] Steffek, *A Story of Two Holy Grails*; Akintola, *A New Frontier?*.

[18] Akintola, *A New Frontier?*.

Consistency is another attraction. Human decision-making is vulnerable to fatigue, overload and inconsistency. Algorithms can apply the same analytical framework repeatedly across claims or records. Such consistency may improve reliability in routine processing and risk analysis.

Yet consistency is not correctness. A system may repeatedly produce the same output while relying upon flawed data or unsuitable assumptions. Algorithmic errors may be replicated at a greater scale than human errors. Efficiency cannot justify abandonment of scrutiny regarding accuracy, transparency and accountability. Insolvency law does not exist solely to process cases rapidly; it balances value preservation, fairness, participation and procedural integrity. Speed is valuable only where the resulting process remains legitimate and trustworthy.[19]

4 LEGAL RISKS OF ALGORITHMICALLY INFLUENCED CREDITOR DECISIONS

The same tools that improve efficiency may also create opacity, bias and accountability deficits. Insolvency systems derive legitimacy from the ability of stakeholders to understand, challenge and evaluate decisions that affect their rights. The practical issue is not whether technology should be used, but under what conditions algorithmic influence remains compatible with transparency, procedural fairness and accountability.

Opacity is the most frequently discussed challenge. Insolvency law assumes that significant decisions can be justified through intelligible reasons. Algorithms complicate this assumption. A creditor may reject a plan because an internal model classifies it as risky, but the model may rely upon thousands of variables and generate conclusions through mechanisms difficult to explain even to its users.

Different forms of explainability should be distinguished. Full disclosure of models, training methods and source code may be impractical and commercially sensitive. A more realistic approach distinguishes model transparency from decision transparency. Insolvency law may require disclosure of a system's function, the principal factors materially influencing its recommendation and relevant limitations, without requiring publication of complete technical architecture.[20]

Explainability matters because stakeholders need confidence in the process. If a proposal is rejected because a model predicts insufficient recovery, saying only that the plan received a low score is not enough. The affected parties should at least understand whether the concern arose from projected cash flow, valuation assumptions, sector risk or implementation uncertainty. Without that basic explanation, there is little room to identify an error or correct a false assumption.[21]

The issue is also institutional. Large financial institutions may have advanced analytics, proprietary datasets and technical expertise unavailable to smaller creditors. Although all creditors may formally participate, some may possess much greater capacity to shape outcomes. Bias may arise from deficient data, but it also operates through unequal distribution of technological capacity.

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[19] EUR. BANKING AUTH., AI ACT: IMPLICATIONS FOR THE EU BANKING AND PAYMENTS SECTOR (Nov. 21, 2025).

[20] EUR. BANKING AUTH., AI ACT: IMPLICATIONS FOR THE EU BANKING AND PAYMENTS SECTOR; Artificial Intelligence Act arts. 13–14; Finale Doshi-Velez & Been Kim, *Towards a Rigorous Science of Interpretable Machine Learning* (arXiv:1702.08608, 2017); Sandra Wachter, Brent Mittelstadt & Luciano Floridi, *Why a Right to Explanation of Automated Decision-Making Does Not Exist in the General Data Protection Regulation*, 7 INT'L DATA PRIV. L. 76–99 (2017).

[21] Akintola, *A New Frontier?*; HIGH-LEVEL EXPERT GROUP ON ARTIFICIAL INTELLIGENCE, ETHICS GUIDELINES FOR TRUSTWORTHY AI (Eur. Comm'n 2019).

Traditional law allocates responsibility to identifiable actors: creditors vote, professionals administer and courts decide. Algorithmic support complicates responsibility because developers, vendors, lenders and Committee representatives may all contribute to an output.

If a model proves inaccurate, the developer may blame data, the creditor may call it advisory and the user may characterise reliance as reasonable. This diffusion risks leaving no actor accountable. Insolvency law should reject an "algorithm made the decision" defence. Where creditors exercise legal authority, they remain responsible for decisions adopted on the basis of algorithmic recommendations.[22]

Responsibility should be allocated according to function. Developers may be responsible for design and known limitations; institutions for deployment, validation and data governance; individual decision-makers for the final adoption of recommendations. Algorithms influence human decisions without replacing human responsibility.

Opacity, bias and accountability converge upon procedural fairness. Insolvency decisions affect creditors, debtors, employees and investors. Stakeholders should be able to challenge materially inaccurate information or demonstrably flawed assumptions.

This does not require full natural-justice hearings regarding every algorithm. Contestability should be proportional to the significance of the system's role. Stronger influence over substantive outcomes justifies stronger disclosure, correction and review. The objective is to preserve confidence without turning every model assessment into separate litigation.[23]

The final challenge concerns commercial wisdom. Judicial restraint is justified because creditors are presumed to possess expertise and incentives to evaluate outcomes. Yet if representatives routinely accept algorithmic recommendations without independent assessment, judicial restraint may protect a technological output rather than commercial judgment.

Automation bias is the tendency to place disproportionate trust in algorithmic outputs, particularly in complex and uncertain environments. Insolvency has precisely those characteristics. This creates a doctrinal paradox: limited judicial review is justified by informed creditor judgment, but opacity may prevent verification that such judgment occurred. The challenge is therefore to preserve meaningful human responsibility within a technologically influenced process.[24]

5 Comparative Regulatory Signals for Insolvency Law

Algorithmic challenges are not unique to insolvency. Regulators across sectors are addressing transparency, accountability, bias and human oversight. Although most AI regulation was developed outside insolvency, it provides guidance for future creditor decision-making.

Risk-based frameworks distinguish AI systems according to the consequences associated with their use. The European Union Artificial Intelligence Act establishes differing obligations and enhanced duties for high-risk systems. AI used to evaluate the creditworthiness of natural persons or establish credit scores is listed as a high-risk use.[25]

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[22] Artificial Intelligence Act arts. 16, 26; RBI Digital Lending Directions, 2025, chs. III–IV.

[23] RBI Digital Lending Directions, 2025, chs. III–IV.

[24] Skitka, Mosier & Burdick, *Does Automation Bias Decision-Making?*; Raja Parasuraman & Victor Riley, *Humans and Automation: Use, Misuse, Disuse and Abuse*, 39 HUM. FACTORS 230–53 (1997); *K. Sashidhar*; *Essar Steel.*

[25] Artificial Intelligence Act annex III ¶ 5(b).

The framework emphasises risk management, data governance, documentation, record keeping, transparency, human oversight, accuracy and robustness. These principles are relevant to insolvency even though plan ranking or creditor voting tools may not fall within the same listed category. Comparable concerns arise whenever algorithmic outputs materially affect significant economic interests. The OECD AI Principles similarly emphasise transparency and explainability, robustness and accountability.[26]

The risk-based model also demonstrates that not all AI uses require identical regulation. Automated document classification may warrant lighter safeguards than tools used to rank resolution plans or estimate recoveries. Regulation should be proportionate to function and influence.

Financial sector regulation provides a second reference point. The Reserve Bank of India's Digital Lending Directions, 2025 address creditworthiness assessment, borrower disclosures, data collection and use, privacy, technology standards and responsibility of regulated entities. The Directions reflect a principle that technological innovation must remain connected to transparency, customer protection and institutional responsibility.[27]

This is relevant to insolvency because algorithmic responsibility can become diffuse. Financial regulation maintains accountability at the level of the regulated entity rather than allowing it to shift entirely to vendors. The same principle can govern insolvency: creditor institutions remain responsible for technological systems used to inform their legal decisions.

Digital lending regulation does not fully address collective insolvency. It focuses primarily upon origination and servicing, while insolvency involves multiple stakeholders with competing claims. It nevertheless demonstrates a regulatory convergence around transparency, accountability, human oversight, data governance and proportionality.

Existing insolvency law contains a variety of mechanisms capable of reviewing decisions, supervising insolvency professionals and ensuring procedural compliance. Commercial wisdom jurisprudence, statutory duties imposed upon insolvency professionals and existing principles of administrative fairness all perform important governance functions within the insolvency process. Even so, these mechanisms were largely developed in an environment where material decision-making was assumed to be explainable through identifiable human reasoning. They do not adequately address circumstances in which influential recommendations are generated by opaque algorithmic systems, where material assumptions may be inaccessible to affected stakeholders and where responsibility becomes fragmented among creditors, advisers and technology providers. Existing legal doctrine therefore provides only a partial response to the governance challenges created by algorithmically informed creditor control.

Any regulatory framework governing algorithmically informed creditor control must remain sensitive to commercial realities. Excessively burdensome disclosure obligations may increase compliance costs, discourage innovation and reduce the ability of creditors to respond quickly to deteriorating financial circumstances. Broader transparency requirements may also raise legitimate concerns regarding confidential business information, proprietary analytical models and commercially sensitive restructuring strategies. The objective of regulation should therefore not be the elimination of technological risk through exhaustive disclosure. Rather, it should be the creation of proportionate safeguards that preserve

[26] Artificial Intelligence Act arts. 9–15; ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT, RECOMMENDATION OF THE COUNCIL ON ARTIFICIAL INTELLIGENCE, OECD/LEGAL/0449 (2019).
[27] RBI Digital Lending Directions, 2025, chs. III–IV.

accountability and procedural legitimacy while allowing creditors to retain the flexibility necessary for effective commercial decision-making.

6 A Regulatory Framework for Responsible Algorithmic Creditor Control

Neither unrestricted deployment nor prohibition is a sensible answer. A document classification tool does not raise the same concerns as a model that ranks resolution plans. The safeguards should therefore match the function of the system and the weight given to its output. Six connected principles provide a workable starting point. These principles also reflect convergence across the AI Act, OECD AI Principles and the Ethics Guidelines for Trustworthy AI.[28]

Material-use disclosure. Where an algorithm materially influences valuation, recovery assessment, plan comparison or a creditor recommendation, the nature and extent of that use should be disclosed in a proportionate form. Disclosure need not reveal source code or commercially sensitive technical architecture, but should identify the system's function, the principal categories of information considered and any material limitations affecting reliance.

Human-in-command oversight. Formal human approval is insufficient. The responsible representative must understand the system's purpose, interrogate outputs, evaluate material assumptions, recognise limitations and reject recommendations where appropriate. Creditors cannot avoid responsibility by attributing the conclusion to a model; meaningful engagement preserves the basis of commercial wisdom.[29]

The same standard requires substantive engagement rather than passive acceptance of technological output.[30]

Auditability and record preservation. Materially influential systems should preserve the model version, intended purpose, input categories, output and the decision-maker's response. Retrospective examination supports accountability without continuous monitoring or public disclosure of source code.[31]

Data quality and validation. A model must be validated for the insolvency function in which it is used. Systems designed for loan origination may be unsuitable for restructuring evaluation; validation should examine assumptions, performance, suitability, drift and context.[32]

Allocation of responsibility. Outsourcing technology must not outsource accountability. Creditors remain responsible for votes; resolution professionals for statutory duties and process information; advisers for analyses and valuations; and vendors for design, documentation and system performance within their obligations.[33]

Resolution professionals should secure process integrity and disclosure compliance without becoming guarantors of every creditor's proprietary model.

Proportionate contestability. Stakeholders should be able to challenge false data, undisclosed reliance or absence of meaningful human consideration. Review should correspond to the system's influence and

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[28] Eur. Banking Auth., AI Act: Implications for the EU Banking and Payments Sector; Organisation for Economic Co-operation and Development, Recommendation of the Council on Artificial Intelligence, OECD/LEGAL/0449 (2019); High-Level Expert Group on Artificial Intelligence, Ethics Guidelines for Trustworthy AI (Eur. Comm'n 2019); Artificial Intelligence Act arts. 9–15.

[29] Artificial Intelligence Act art. 14; Steffek, *A Story of Two Holy Grails*; John D. Lee & Katrina A. See, *Trust in Automation: Designing for Appropriate Reliance*, 46 Hum. Factors 50–80 (2004).

[30] Wachter, Mittelstadt & Floridi, *Why a Right to Explanation*.

[31] Artificial Intelligence Act arts. 11–12.

[32] Akintola, *A New Frontier?*; Artificial Intelligence Act arts. 9–10, 15.

[33] RBI Digital Lending Directions, 2025; Artificial Intelligence Act arts. 16, 26.

focus on legality and procedural integrity rather than substitution of judicial preferences for commercial judgment.[34]

Contestability does not require disclosure of confidential source code. Relevant inputs, material assumptions, methodological explanations and the rationale for a recommendation may permit meaningful scrutiny while protecting legitimate intellectual property.[35]

Consistently with existing doctrine, tribunals need not become technical regulators of AI; they should ensure that materially influential use satisfies minimum standards of transparency, accountability and fairness.[36]

7 CONCLUSION

The digital transformation of corporate finance is altering the informational foundations of insolvency. Artificial intelligence, predictive analytics and algorithmic decision-support are moving from credit origination and risk management into distress monitoring, claims analysis, valuation, recovery estimation and resolution planning. The future of creditor control cannot therefore be analysed solely through concepts developed for exclusively human decision-makers.[37]

This paper has argued that algorithmic insolvency governance presents opportunities and risks. AI may support earlier identification of distress, reduce information asymmetry and improve administrative efficiency. Properly deployed technologies may improve the quality and timeliness of information available to creditors and insolvency professionals.[38]

At the same time, opacity may undermine explainability; biased or incomplete data may distort outcomes; technological asymmetry may concentrate informational power; and diffusion of responsibility may frustrate accountability. Most importantly, dependence upon algorithmic recommendations challenges commercial wisdom. Judicial restraint assumes genuine informed judgment. If judgment is displaced by opaque technological outputs, the normative basis of judicial restraint is weakened.

The analysis rejects two extremes. Technological resistance would sacrifice useful analytical capacity. Technological determinism would treat algorithmic outputs as inherently objective and disregard transparency, accountability and fairness. Instead, the paper proposes responsible algorithmic creditor control. Algorithms should function as decision support mechanisms rather than autonomous decision-makers. Human actors remain responsible, while technology operates within safeguards of material-use disclosure, meaningful human oversight, auditability, data validation, clear responsibility and proportionate contestability.[39]

The central challenge is not the use of artificial intelligence within insolvency processes, but the changing relationship between legal authority and technological influence. Under the Insolvency and Bankruptcy Code, commercial authority remains vested in creditors acting through the Committee of Creditors. Algorithmic systems may assist those creditors by improving information processing, modelling potential outcomes and identifying risks that may not be immediately apparent through traditional

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[34] Artificial Intelligence Act arts. 13–14; RBI Digital Lending Directions, 2025, chs. III–IV.

[35] Wachter, Mittelstadt & Floridi, *Why a Right to Explanation*.

[36] Insolvency and Bankruptcy Code, 2016, §§ 30–31; *Essar Steel*.

[37] Steffek, *A Story of Two Holy Grails*; Akintola, *A New Frontier?*.

[38] Akintola, *A New Frontier?*; BANKRUPTCY LAW REFORMS COMMITTEE REPORT chs. 3–4.

[39] Artificial Intelligence Act arts. 9–15; EUR. BANKING AUTH., AI ACT: IMPLICATIONS FOR THE EU BANKING AND PAYMENTS SECTOR.

analysis. Yet the existence of formal authority is not, by itself, sufficient to justify judicial restraint. The legitimacy of creditor control depends upon the continued exercise of meaningful human commercial judgment. The stronger the algorithmic influence upon a creditor decision, the stronger the justification for corresponding obligations of transparency, accountability and human oversight. Where technologically generated recommendations become effectively determinative and the basis of those recommendations cannot be identified, tested or challenged, the rationale underlying commercial wisdom becomes progressively weaker.

The future of creditor-controlled insolvency will not be resolved by choosing between people and artificial intelligence. It will depend on how well legal institutions govern their interaction. Algorithms can help creditors process information, model outcomes and identify risks that may otherwise be missed. They should not, however, displace the identifiable human responsibility on which creditor authority rests. For a supplier waiting for payment, an employee concerned about job security or a debtor trying to save a viable business, the reasons behind an insolvency decision matter. The proposed safeguards, like material-use disclosure, human-in-command oversight, auditability, validation, clear responsibility and proportionate contestability, seek to preserve that human centre. AI should remain a tool of insolvency governance, not its substitute.

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