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Introduction

Welcome to the Indian Journal of Legal Affairs and Research (IJLAR), a distinguished platform dedicated to the dissemination of comprehensive legal scholarship and academic research. Our mission is to foster an environment where legal professionals, academics, and students can collaborate and contribute to the evolving discourse in the field of law. We strive to publish high-quality, peer-reviewed articles that provide insightful analysis, innovative perspectives, and practical solutions to contemporary legal challenges. The IJLAR is committed to advancing legal knowledge and practice by bridging the gap between theory and practice.

Preface

The Indian Journal of Legal Affairs and Research is a testament to our unwavering commitment to excellence in legal scholarship. This volume presents a curated selection of articles that reflect the diverse and dynamic nature of legal studies today. Our contributors, ranging from esteemed legal scholars to emerging academics, bring forward a rich tapestry of insights that address critical legal issues and offer novel contributions to the field. We are grateful to our editorial board, reviewers, and authors for their dedication and hard work, which have made this publication possible. It is our hope that this journal will serve as a valuable resource for researchers, practitioners, and policymakers, and will inspire further inquiry and debate within the legal community.

Description

The Indian Journal of Legal Affairs and Research is an academic journal that publishes peer-reviewed articles on a wide range of legal topics. Each issue is designed to provide a platform for legal scholars, practitioners, and students to share their research findings, theoretical explorations, and practical insights. Our journal covers various branches of law, including but not limited to constitutional law, international law, criminal law, commercial law, human rights, and environmental law. We are dedicated to ensuring that the articles published in our journal adhere to the highest standards of academic rigor and contribute meaningfully to the understanding and development of legal theories and practices.

BEYOND HUMAN AGREEMENT: ALGORITHMIC COLLUSION AND THE FUTURE OF COMPETITION LAW ENFORCEMENT

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Abstract

Artificial Intelligence pricing systems rapidly adopted in the digital marketplace have fundamentally challenged the traditional foundations of competition law. Traditional antitrust laws are based upon the existence of an agreement or meeting of minds between competitors. Autonomously learned algorithms can independently change their pricing based on their own experiences and respond quickly to changes in the marketplace, allowing for the potential of colluding in a supra-competitive manner without any explicit intent of the people who develop the algorithms. The autonomous nature of algorithmic collusion, therefore, raises a key question of doctrine with respect to the role played by an individual's agreement to collude in determining whether a violation of competition law exists.

This paper provides an overview of the theoretical underpinnings of algorithmic collusion and examines the ways in which autonomous coordinating mechanisms challenge legal doctrines established under the Sherman Act, Article 101 (TFEU), and the Competition Act of 2002. Using doctrinal and comparative methods, this research evaluates enforcement trends across the United States, the European Union, and India, highlighting the growing ineffectiveness of intent-based and ex post enforcement mechanisms to properly address machine-supported tacit collusion.

This Article proposes an enforcement framework that is future-oriented, incorporating algorithmic accountability, public business processes, conduct audit, and outcome-sensitive liability standards. The article concludes that competition law must be reimagined to govern markets where collusion may emerge without human agreement.

Keywords: *Algorithmic Collusion; Competition Law; Algorithmic Accountability; Digital Markets; Artificial Intelligence.*

1. Introduction

The way competition works has dramatically changed because of the rising popularity of using artificial intelligence (AI) in making decisions about the market. Self-learning algorithms are now used to set prices through AI-enabled systems. Companies use these systems to help them respond more quickly to changes in what customers want, how competitors are behaving, and what types of products customers are buying. This technology improves how quickly businesses can change their prices, but at the same time, it is disrupting the way that competition law defines collusion. Traditionally, competition law looked at collusion based on the concept of human agreements by requiring proof through communication, concerted practices, or coordinated behaviour. However, in the way that businesses use pricing based on AI, businesses will start to collude with each other without having any human involvement in the agreement at all. This creates a difficult legal question concerning how courts can enforce anti-competitive liability based on the actions of businesses in circumstances where there has been no conscious agreement between the parties to work together. Many recent articles written by legal scholars discuss the changes created in the traditional definition of a tacit agreement to collude when one party is using an algorithm to make pricing decisions that could lead to a form of tacit agreement to collude between multiple parties without any type of human involvement.[1]

The field of algorithmic collusion has grown rapidly within the three disciplines of law, economics and regulation of digital markets. Within this body of literature, researchers have examined how machine learning systems can lead to the stabilisation of supra-competitive pricing outcomes within the context of repeated interactions between oligopolistic firms, and that through this process, machine learning may actually be more effective than human actors at achieving the same result. Additionally, there has been considerable discussion surrounding the relationship between algorithmic pricing and more traditional concepts of collusion i.e. tacit collusion, conscious

[1] Algorithms and Collusion: Bridging the Gap with Alternative Tools. https://link.springer.com/article/10.1007/s40319-025-01578-5?utm_source=chatgpt.com.

parallelism, hub-and-spoke coordination, especially in cases where firms utilise a common software architecture or have access to shared data ecosystems.[2] Ongoing debates are largely centred on whether current institutional responses i.e. 'post hoc' antitrust enforcement can effectively address this issue or whether future development of antitrust law will require an ex ante regulatory framework to govern pricing technologies. However, a significant portion of this literature describes potential risks associated with algorithmic coordination via AI without sufficiently addressing meaningful doctrinal implications associated with its use.

A significant gap exists in research pertaining to collusion liability in association with the continuing reliance on the human agreement threshold as the primary measure of collusion. While autonomous coordination may ultimately escape conventional agreement-based tests, relatively little has been done toward reconstructing liability standards outside of a human-centric perspective. Furthermore, comparative legal analysis by jurisdictions regarding how to redesign thresholds for attribution, foreseeability, and evidence for purposes of machine-generated coordination is also minimally developed. The existence of this gap is significant from a doctrinal standpoint because collusion as evidenced through economically damaging factors, such as higher prices, loss of innovation, and reduced consumer welfare exists regardless of whether the person or algorithm facilitates the collusion.

In light of the above, this study's two main subjects are 1. whether collusion can be proven in the absence of human intent if the algorithms produce stable anti-competitive outcomes, and Should competition law change from being based on an agreement to one based on the outcome. This article aims to enforce cartels into the future, but in order to do so there has to be a normative change from the traditional meeting of minds standard to one where liability for collusion lies in the anticompetitive outcome and extent of control over the design of the algorithm, rather than just the proof of express agreement between parties. This research will use a doctrinal as well as a comparative legal method to analyse the legal framework of agreements, common practices, and silent cooperation within the context of AI-based markets. The aim of this article is to provide

[2] Algorithms, Machine Learning, And Collusion. https://academic.oup.com/jcle/article-abstract/14/4/568/5514023?redirectedFrom=fulltext&login=true&utm_source=chatgpt.com.

insight into the emerging jurisprudence concerning the impact of algorithms upon collusion in the online economy.

2. Conceptual Foundations of Algorithmic Collusion and Autonomous Coordination

Algorithmic collusion refers to the use of automated pricing systems to create or keep anti-competitive market behaviour. As digital markets have developed, companies are more often using artificial intelligence (AI) and machine learning (ML) to dynamically price in real time. In contrast to traditional cartel activity, which requires some type of communication and mutual understanding between competitors, algorithmic collusion can develop from independent competition to deploy systems that will learn from market variables e.g., market conditions, competitor responses to those market conditions. This is a major shift from traditional theories of collusion because the parties to the collusion may not be able to prove they were in collusion. As a result, the current law of competition does not provide an adequate framework through which to regulate this new form of collusion.[3]

Explicit and tacit coordination are two key concepts in the previous sentences. Explicit coordination occurs through direct communication, signalling or common design to intentionally align pricing behaviour in a manner that is consistent with standard competition law analysis. Tacit algorithmic coordination, however, occurs when self-learning algorithms independently develop and converge to strategies that maximise joint profits through repeated engagements with each other. The key difference between explicit and tacit coordination is how the former is programmed as a static rule while the latter develops dynamically through adaptive learning. Therefore, algorithmic collusion more closely resembles the long-discussed concept of tacit collusion while being further intensified based on the speed, precision and consistent ability to survey the market.[4]

[3] Ariel Ezrachi and Maurice E Stucke, Sustainable and Unchallenged Algorithmic Tacit Collusion (2020) 17 Northwestern Journal of Technology and Intellectual Property 217. https://scholarlycommons.law.northwestern.edu/njtip/vol17/iss2/2/?utm_source=chatgpt.com.

[4] Paolo Siciliani, 'Tackling Algorithmic-Facilitated Tacit Collusion in a Proportionate Way' (2019) 10(1) Journal of European Competition Law & Practice 31.
https://academic.oup.com/jeclap/article-abstract/10/1/31/5068278?utm_source=chatgpt.com&login=true.

Self-learning price systems are the centre of this transformation. These systems use both historical and real-time data to forecast competitor behaviour, determine demand elasticity and recalculate pricing without any real-time human oversight. Algorithms can learn through reinforcement learning from past results that aggressive price competition reduces profitability in the long run, while stable pricing alignment produces higher returns. The ability of these systems to continue to learn based on past results means that these systems can develop internalised strategies that resemble coordinated behaviour without the presence of a collusive intent. The risk here is not simply from automation, but rather from autonomous optimisation systems that have profit-maximising equilibrium as their highest priority.[5]

The repeated interaction between firms will enhance the opportunity for coordinated behaviour. In digital markets, there is ongoing transparency among competitors regarding price, therefore allowing algorithmic responses to deviations from standard pricing patterns, supporting conditions conducive to retaliatory pricing tactics– a consequence of the speed at which the system can respond in the event of a firm being undercut by another firm. Immediate retaliation leads to the stability of co-operative price behaviours, limiting the incentive for firms to deviate from the established pricing pattern, and reflects the game-theoretic logic of repeated interaction between oligopolistic firms under identical, low-cost structural and operational characteristics. The speed and uniformity with which the algorithms respond to market prices will make it more likely that the firms will reach a more durable level of coordination than would have occurred with traditional forms of tacit collusion.[6]

The result of these processes is the emergence of autonomous outcomes superior to the norm of competition. Persistent price levels above the norm of competition may be caused by the interactive algorithms of buyers and sellers learning that mutual accommodation is the most profitable course of action, but these outcomes do not occur because they have been explicitly agreed to by a group of companies. As such, there is a challenge to the long-held legal assumption

[5] Francisco Beneke and Mark-Oliver Mackenrodt, 'Remedies for Algorithmic Tacit Collusion' (2021) 9(1) Journal of Antitrust Enforcement 152. https://academic.oup.com/antitrust/article/9/1/152/5880803?utm_source=chatgpt.com&login=true.
[6] Ulrich Schwalbe, 'Algorithms, Machine Learning, and Collusion' (2019) 14(4) Journal of Competition Law & Economics 568.

that the existence of collusion must always be linked to there being a meeting of the minds amongst the colluding parties. Our understanding of algorithmic coordination provides an understanding of how the harms arising from competition can occur merely as a result of system design and predictability in repeated interactions between machines. This conceptual framework will become increasingly important to explain why traditional contract law theories based upon the existence of an agreement will continue to be challenged in an AI-driven market, and why future enforcement models may need to rely more heavily on identifying coordinated outcomes rather than proof of human intent.[7]

3. The Crisis of Human Agreement in Competition Law

The most important legal challenge that can be presented by the existence of collusion in the algorithms provides a serious challenge to the traditional legal principle that requires that there be objective evidence of an agreement between people in order for the cartel liability to attach. Cartel prosecutions in almost all major regimes of competition law from around the world are based on the principle of "meeting of the minds." The traditional principles that apply to cartel prosecution have been the principles of agreement, concerted practices, and intentional coordination between people. However, in the case of algorithmic pricing systems, autonomous pricing can create supra-competitive pricing regardless of any contract or agreement between any human beings, which indicates that the existing anti-competitive laws cannot deal with autonomous pricing systems.[8]

The Sherman Act, Section 1, holds that the liability for unlawful collusion will arise from the establishment of proof of an agreement between the parties, which will restrict trade. Historically, the existence of agreement has been used to distinguish unlawful collusion from lawful conscious parallelism. Autonomous pricing systems converge on profit-maximising pricing strategies through repeated transactions across the market, and there will be no sufficient evidence of human agreement; therefore, the existence of a conspiracy by those using the systems will create ambiguity as to whether there was human agreement or whether the launched outcome is merely

[7] Alexandra P Mikroulea, 'Algorithms and Collusion: Bridging the Gap with Alternative Tools' (2025) 56 IIC International Review of Intellectual Property and Competition Law 463. https://link.springer.com/article/10.1007/s40319-025-01578-5.
[8] Valeria Caforio, 'Algorithmic Tacit Collusion: A Regulatory Approach' (2023) 15 Competition Law Review 9.

economic in nature, or whether it is an identifiable outcome of collusion. The existence of the intent requirement that accompanies an agreement establishes a need for the traditional method of identifying collaboration by those who may use those algorithms. Recently published research and scholarship have examined the issues surrounding autonomous algorithms and whether they will fit properly within the existing agreement-oriented structure of Section 1.[9]

Both Article 101 TFEU and the Competition Act 2002 define anti-competitive conduct as coordination between undertakings, with both adopting an extremely broad definition of coordination. EU competition law allows for a wider definition of the term than does U.S. antitrust law, but EU competition law still holds that any coordination either assumes or is replaced by all participating firms having some level of agreement amongst themselves concerning their respective conduct. The problem lies in the fact that when competing firms use algorithmic agents independently from each other, and both agents learn how to maintain stable price alignments without any direct proof of inter-firm communication, it becomes increasingly difficult to differentiate between prohibited concerted action and lawful parallel conduct.

The same issue exists under the Indian Competition Act, 2002, with respect to anti-competitive agreements and concerted conduct. While the statute provides a sufficient basis for a technology-based coordinated conduct claim, it continues to rely on proof of prohibited conduct through evidence that the parties intended to coordinate their activities or communicated with each other, or through the establishment of other behavioural plus factors. As a result, autonomous coordination will be at risk of escaping liability for the same anti-competitive behaviour that would otherwise have been illegal if carried out by two or more competitors.[10]

The crisis is also made worse by the black box algorithm issue. As many advanced AI systems have very little explainability as to how they operate, there may be no understanding as to whether the supra-competitive pricing originated from intentional design, predictable learning experiences,

[9] Salil K Mehra, 'Artificial Intelligence and Collusion' (2018) 50 IIC 181. https://link.springer.com/article/10.1007/s40319-018-00773-x?utm_source=chatgpt.com.

[10] Reuters, 'Collusion by Code? Understanding Algorithmic Pricing and Antitrust Enforcement' (20 March 2026). https://www.reuters.com/legal/legalindustry/collusion-by-code-understanding-algorithmic-pricing-antitrust-enforcement--pracin-2026-03-20/?utm_source=chatgpt.com.

or machine-independent adjustments. Because algorithmic reasoning lacks clarity, classic evidence rules for showing intent and agreement can no longer be applied. Therefore, the traditional importance given to human consensus is increasingly at odds with the digital market's ability to be governed. Competition law must now rethink liability to include more than the traditional meeting-of-the-minds model.

4. Comparative Enforcement Trends: US, EU and India

There are trends in the enforcement of algorithmic coordination across different jurisdictions; however, these trends indicate that while the majority of jurisdictions recognise the risks associated with algorithmic coordination, they are not aligned doctrinally. Specifically, all jurisdictions accept that algorithmically coordinated pricing would create risk, but there is no consensus among jurisdictions as to how algorithmic pricing relates to shared data and the requirement for an agreement. This divergence adds to the overall argument being created through the examples and case studies presented in this article.

In terms of the U.S. as a jurisdiction, the RealPage litigation has clearly emerged as the most prolific jurisdiction for litigation regarding algorithmic pricing and is a suitable modern test case. The government has alleged that certain competitors e.g. landlords shared non-public competitively sensitive information with their competing landlord through the common revenue-management software used by RealPage. RealPage makes coordinated rental pricing recommendations to competing landlords across local housing markets. The importance of RealPage as an example is how it has transitioned the theoretical concerns associated with autonomous collusion to the more practical site of a generally accepted "hub and spoke" model of software-enabled coordination i.e., one algorithm that is used by everyone, is the central coordinating mechanism. RealPage also represents a trend in U.S. enforcement that is increasingly targeting the software vendors that create the common methodologies to develop common pricing architectures, in addition to the competitors.[11]

[11] DOJ v RealPage Inc, Complaint (2024); settlement developments (2025). https://www.reuters.com/sustainability/boards-policy-regulation/realpage-agrees-limit-data-collecting-settle-doj-rental-price-fixing-case-2025-11-24/?utm_source=chatgpt.com.

The EU's Article 101 TFEU uses a broader doctrinal model that emphasises the concept of 'concerted practices' as an element of anti-competitive conduct to hold parties liable for anti-competitive behaviour when they substitute their actual cooperative acts with a risk of competing when there is no express agreement to create liability. This broader model has been further supported by new measures like the Digital Markets Act (DMA) and various platform governance measures.[12] The broader model has also provided new tools to scrutinise algorithmic pricing, access to data, and platform intermediation; however, as autonomous self-learning systems can use only their own data to reach supra-competitive outcomes without identifiable data sharing or behavioural signals, the EU is limited in holding them liable. The challenge will be to extend the doctrine of concertation to include black-box parallelism without collapsing the distinction between unlawful cooperation and lawful interdependence.

In India, the CCI's jurisprudence has focused more on following a platform-sensitive approach for cases dealing with digital intermediation, data asymmetry, and platform dominance. While there have only been a few instances of direct algorithmic collusion cases to date; CCI's growing understanding of the ways platform design and the reliance on data-driven decision-making processes may negatively affect competition offers broader opportunities for this kind of enforcement under Section 3 of the Competition Act; however, the requirement of evidence for proving communication, intent and plus-factor analysis continues to limit the use of Section 3 as an effective tool for enforcing competition.[13]

As a result, the comparison shows differences in terms of legal doctrine within their limits as applied to companies. The United States utilises "conspiracy" and "hub and spoke" reasoning, while the European Union focuses on "concerted practices" and the regulation of digital markets and India is still in a developing stage of the case law process or jurisprudence in this area. Common to all three jurisdictions are the existing limits on how to properly enforce current antitrust laws as they relate to growing numbers of companies that cooperate on software projects that work together but do not exhibit any autonomous collusion through the use of machine

[12] Regulation (EU) 2022/1925 on contestable and fair markets in the digital sector (Digital Markets Act).
[13] XYZ v Google LLC (Google Android Case) Competition Commission of India, Case Nos 07 and 30 of 2012.

production.[14] Thus, by defining limitations common to these key jurisdictions, it builds evidence to strengthen the need for outcome-oriented and accountability-based liability systems in the future enforcement of competition law.

5. Reimagining Competition Law Beyond Human Agreement

The need for a fundamental restructuring of enforcement frameworks is prompted by the limitations of competition law, which emphasise agreement-based collusion, and also by recent exposures of algorithmic collusion. Liability models must transition from retrospective intent analysis to a forward-looking accountable analysis driven by the design, deployment, and foreseeable effects of autonomous systems that produce coordinated outcomes without human intent.[15] This transition requires establishing algorithmic accountability as a core principle of competition law to ensure that firms can be held liable for the market effects of the systems they deploy.

Transparency by design is an essential element of this transition. Firms that deploy pricing algorithms will be required to provide a certain amount of explainability regarding the objectives of their systems, the parameters used to learn from previous data, and how the algorithms arrive at decisions.[16] While a complete disclosure of proprietary source code may not be viable, regulatory frameworks can provide functional transparency so that the efficiency of mechanisms employed by the algorithms to facilitate collusive actions can be assessed. Additionally, audit obligations would provide for independent or regulatory audits of algorithmic behaviour over time in order to establish a pattern that demonstrates alignment with supra-competitive behaviour.[17] These ex ante and ongoing monitoring mechanisms will help to reduce an overreliance on the post hoc inference of intent.

[14] Aurelien Portuese (ed), Algorithmic Antitrust (Springer 2021).
[15] Ariel Ezrachi and Maurice E Stucke, Virtual Competition: The Promise and Perils of the Algorithm-Driven Economy (Harvard University Press 2016). https://www.hup.harvard.edu/books/9780674972273.
[16] OECD, Algorithms and Collusion: Competition Policy in the Digital Age (OECD 2023). https://www.oecd.org/competition/algorithms-collusion-competition-policy-in-the-digital-age.htm.\
[17] UK Competition and Markets Authority, Algorithms: How They Can Reduce Competition and Harm Consumers (CMA 2021).
https://www.gov.uk/government/publications/algorithms-how-they-can-reduce-competition-and-harm-consumers?utm_source=chatgpt.com.

The growth of computer-based antitrust tools will also promote this change in enforcement policy. As competition authorities are increasingly able to use data analysis, simulation modelling and other algorithms to find patterns in the price of goods that may be indicative of collusive behaviour, they will likely develop a more robust capacity to detect not only when competitors have colluded, but also to predict when they are likely to act together in the future.[18] The presence of technology in both businesses and regulators will be critical in markets where behaviour that limits competition is facilitated by technology.

Additionally, liability should be extended from traditional firm-based actors to include software companies and other facilitators. When companies use a common pricing infrastructure or a third-party algorithm to achieve coordinated pricing results, liability should be imposed on the companies using the price infrastructure as well as on the companies creating the price infrastructure and/or algorithm being used.[19] This demonstrates a shift to a distributed form of liability by acknowledging that today's collusion is much more likely to be embedded in structure than it is in an agreement or understanding between participants.

Ultimately, we must focus on the shift to ex ante regulatory standards. It is not enough to only rely on enforcement after the fact under competition law; we must include preventive requirements, such as compliance-by-design, a risk assessment process, and protection against coordinated algorithmic strategies.[20] These changes will help us move to an outcome-sensitive and technology-oriented enforcement approach that deals with collusion in markets where the agreement is no longer made by people but by computers.

[18] Thibault Schrepel, 'Computational Antitrust' (2021) 13 Stanford Journal of Law, Business & Finance 1. https://law.stanford.edu/publications/computational-antitrust/.
[19] Salil K Mehra, 'Antitrust and the Robo-Seller: Competition in the Time of Algorithms' (2016) 100 Minnesota Law Review 1323. https://minnesotalawreview.org/article/antitrust-and-the-robo-seller/.
[20] European Commission, Proposal for a Regulation on Artificial Intelligence (AI Act) COM(2021) 206 final. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021PC0206.

6. Findings and Suggestions

6.1 Key Findings

This paper shows that traditional contract-based competition law is not suitable for stopping algorithm-assisted collusion. The doctrine of "meeting of minds" does not fit with the coordinated results produced by autonomous pricing systems, where there is no way to prove any human intent or communication took place. This paper also finds that the self-learning algorithms involved in the above example make it hard for there to be intent-based enforcement because of the consistent, stable pricing and continuing interactions, and adaptive learning to create stable supra-competitive prices. There is a common structural flaw across the United States, the European Union, and India: all jurisdictions focus primarily on the agreement and have no way to measure a result. Therefore, all ex post enforcement methods do not work for technologically mediated coordination, which happens outside of normal legal thresholds.

6.2 Suggestions

This article suggests a move to an outcome-sensitive approach to liability, where the focus of enforcement is on demonstrable effects that are anti-competitive, rather than proving an agreement was in place. In addition, to help regulate, there will need to be a requirement for audit trails for algorithms, as well as a requirement for an explanation of the results of algorithms. The liability structure also needs to be extended to include those who sell and facilitate price-fixing software and support coordination. Finally, there is need to be specific antitrust compliance obligations related to artificial intelligence, such as risk assessments conducted before implementation and safeguards based on design, in order to ensure competition law works effectively where algorithms are used to govern markets.

7. Conclusion

This study showed how the fundamental basis for competition law, agreeing to collude as humans, no longer reflects the reality of how markets are now governed by algorithms. As AI pricing systems have continued to develop to the point of autonomously learning from their environment and developing strategies to interact with other AI-driven systems over time, these systems can produce coordinated or collusive results without the presence of any direct or indirect agreement,

intent, or identifiable consensus among them. The change creates a structural defect in the existing enforcement mechanisms prevailing today. Typically, existing mechanisms are based upon evidentiary norms that are not well-suited to detect or regulate machine-generated collusion across multiple AI systems.

The findings from different jurisdictions have all shown that while there are different legal standards from one jurisdiction to another, competition regimes across jurisdictions continue to rely on liability for agreements, which puts them in a position of systematically under-enforcing competition law in digital markets. The reliability of this approach ignores that traditional cartels and algorithmically maintained supremely competitive outcomes are economically equivalent.

Thus, future competition laws must get beyond the traditional "meeting of the minds" definition. Adequate enforcement will require a combination of doctrinal flexibility, algorithmic transparency, auditability and liability standards sensitive to the outcomes of the conduct. By changing the focus of liability from the behaviour of the parties to the foreseeable anti-competitive impacts and to institutions' control over their algorithmic systems, competition law will have the ability to stay responsive to changes in technology while still being able to fulfil its fundamental mandate to protect competition in the marketplace and the welfare of consumers in the digital age.