

ARTIFICIAL INTELLIGENCE TEACHES ITSELF TO COLLUDE? WHAT INCREASINGLY SOPHISTICATED AI COULD MEAN FOR ANTITRUST COMPLIANCE



BY SONIA KUESTER PFAFFENROTH & BRIAN DESMARAIS¹



¹ *Sonia Kuester Pfaffenroth* is a Partner in Arnold & Porter's Antitrust/Competition practice. She formerly served in the Antitrust Division of the US Department of Justice (DOJ) as Deputy Assistant Attorney General for Civil and Criminal Operations. *Brian Desmarais* is a Senior Associate in Arnold & Porter's Antitrust/Competition practice. Mr. Desmarais previously served an Assistant Vice President/Associate General Counsel at L'Oreal USA, Inc. where he advised the company on a range of antitrust compliance matters.

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The availability of big data and increasing sophistication of algorithms and artificial intelligence has had an evolving impact on strategic decision-making across sectors. Pricing algorithms can assist firms to optimize pricing on a near real-time basis in response to competitors' strategic moves through the rapid analysis of vast quantities of market data. They can also be used — as has been demonstrated by government enforcement actions — to facilitate sophisticated collusion between competitors. And, for some time now, antitrust experts have debated a related question: when might these pricing algorithms become sufficiently sophisticated to cross the line from a tool used by businesses to execute strategies created by humans to AI that has the capacity to collude with other market participants without human intervention. As the technological and legal landscape evolves, compliance will become increasingly challenging. While the strategic benefits of technology are significant, it is important to keep a close eye on developments to ensure compliance measures keep pace with potential areas of risk.

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I. INTRODUCTION

The availability of big data and the increasing sophistication of algorithms and artificial intelligence has had an evolving impact on strategic decision-making across sectors ranging from airline pricing to ride sharing to e-commerce. Pricing algorithms can assist firms to optimize pricing on a near real-time basis in response to competitors' strategic moves through the rapid analysis of vast quantities of market data. They can also be used — as has been demonstrated by government enforcement actions — to facilitate sophisticated collusion between competitors.

The use of algorithms in pricing, and their associated risks, is by no means a new concept. Each new technological advance can provide not only benefits to businesses and consumers, but also the potential for another tool that can be used to facilitate unlawful conduct and pose barriers to detection. Third parties developing and marketing pricing tools may, inadvertently, increase antitrust risk for their customers by marketing the same products to competitors, creating the opportunity for the perception of collusion.

The discussion of the use of AI in pricing has also led to broader questions about other antitrust risks artificial intelligence and algorithms may pose, particularly in the context of a single business's strategic decisions. Enforcers and academics are questioning whether the use of algorithms can facilitate price discrimination or monopoly maintenance. Legislators are in turn considering more broadly whether new tools are necessary to provide antitrust enforcers with the ability address the potential for competitive harm.

And, for some time now, antitrust experts have debated a related question: when might these pricing algorithms become sufficiently sophisticated to cross the line from a tool used by businesses to execute strategies created by humans to AI that has the capacity to collude with other market participants without human intervention. Government enforcers, academics and legislators have expressed divergent views on both whether we have already crossed that line and whether current antitrust tools are sufficient to address any anticompetitive conduct stemming from the use of technology.

The only aspect of the competitive implications of AI that is not subject to debate is that this will continue to be an evolving - and highly scrutinized - area. As the technological and legal landscape evolves, compliance will become increasingly challenging as companies seek to reduce risk and avoid exposure to government investigations or to costly and burdensome litigation. While the strategic benefits of technology are significant, it is important to keep a close eye on developments to ensure compliance measures keep pace with potential areas of risk.

II. THE FTC AND DOJ CONSIDER ALGORITHMS, ARTIFICIAL INTELLIGENCE, AND ANTITRUST

The Federal Trade Commission and the Antitrust Division of the US Department of Justice (Antitrust Division) have been considering the potential issues stemming from pricing algorithms for years.

During the Trump administration, there was general consensus at the FTC and DOJ that although algorithms might enable parallel pricing or support new ways of engaging in collusive arrangements, traditional antitrust analysis could be applied to new forms of AI-based conduct.

For example, in a 2017 joint submission to the Organisation for Economic Cooperation and Development (“OECD”), the FTC and DOJ discussed the analytical frameworks for assessing concerted action under US antitrust laws in the context of computerized pricing tools.² The agencies emphasized that US antitrust laws focus on challenging anticompetitive behavior rather than market outcomes. The agencies concluded that, “[w]ithout proof of collusion or evidence that the knowing parallel adoption of pricing formulas narrowed the range of prices over time, parallel pricing conduct may be outside the reach of the antitrust laws.”³ Therefore, to the extent pricing algorithms still reflect unilateral pricing conduct by a single firm that would not otherwise constitute a violation of the antitrust laws, it would not be unlawful to use AI to set prices even when doing so contributes to supra-competitive prices.⁴

² OECD Roundtable: Algorithms and Collusion (Paris, June 21-23, 2017) (information and documents), available at <https://www.oecd.org/daf/competition/algorithms-and-collusion.htm>.

³ Algorithms and Collusion — Note by the United States (May 26, 2017) (official submission to the OECD Roundtable), available at <https://www.oecd.org/daf/competition/algorithms-and-collusion.htm>.

⁴ OECD Roundtable: Algorithms and Collusion (Paris, June 21-23, 2017) (information and documents), available at <https://www.oecd.org/daf/competition/algorithms-and-collusion.htm>.

In subsequent public statements, antitrust agency leaders struck a similar tone, emphasizing that antitrust analysis of pricing algorithms should stick to traditional frameworks. In a 2018 speech addressing pricing algorithms, then-Deputy Assistant Attorney General Barry Nigro noted that one should “take out” the fact that an algorithm was used when considering whether pricing conduct constitutes collusion. Proof of an agreement still remains the touchstone for illegality, and while Nigro recognized that agreements to collude can be inferred from circumstantial evidence, he was skeptical that an agreement could be inferred based simply on the fact that the “spokes” all use the same price-setting mechanism (i.e., an algorithm).⁵ When discussing the enforcement actions DOJ had taken regarding pricing algorithms and collusion, then-Acting Assistant Attorney General Andrew Finch similarly emphasized that proof of an agreement was key in determining whether parallel conduct amounts to an antitrust violation under US law.⁶

In late 2018, highlighting the importance of the topic, the Federal Trade Commission devoted two days of its series of public Hearings on Competition and Consumer Protection in the 21st Century to the topic of “competition and consumer protection issues associated with the use of algorithms, artificial intelligence, and predictive analytics in business decisions and conduct.” The Federal Trade Commission solicited public comments on questions relating to AI, including whether “the use of algorithms, artificial intelligence, and predictive analytics currently raise particular antitrust concerns (including, but not limited to, concerns about algorithmic collusion).” At the hearing itself, speakers from the government, academia, private practice, economic consulting and industry offered a variety of viewpoints in sessions ranging from the real world application of algorithms and AI, ethical considerations, issues relating to innovation and market structure and algorithmic collusion. With respect to algorithmic collusion, as has been raised in other contexts, the hypothetical was posed as to how to address a future state where AI might have the capacity to collude without a clear agreement to do so among human market participants.⁷ Bruce Hoffman, the then-Director of the Federal Trade Commission’s Bureau of Competition introduced the topic by posing the question “is it possible that machine intelligence, artificial intelligence, could actually collude by itself . . . in the sense of explicitly agreeing on price, output, customer allocation, market allocation?”⁸

Current antitrust agency leaders have generally struck a consistent tone in discussing collusion. At the 2020 International Competition Network’s Cartel Working Group Plenary, Deputy Assistant Attorney General Richard Powers said the agency “expect[s] to see the use of algorithmic collusion with increasing frequency.”⁹ However, “while algorithms — similar to other technological developments — may present new challenges as we enforce a statute written in 1890, so far at least, we feel equipped to confront such challenges without major changes in our enforcement.”¹⁰ DAAG Powers stated clearly that in situations where a programmer or a platform, or another intermediary, serves as the coordinator for an agreement between competitors to use a single pricing algorithm for unlawful purposes, both the competitors and the intermediary would be subject to prosecution.¹¹

At the same time, current DOJ leadership acknowledges that the anticompetitive risks around AI are evolving, and this evolution may at some point require different investigation and prosecution tools. Most recently, Assistant Attorney General for Antitrust Jonathan Kanter suggested that proactive compliance may be necessary to address collusion risks. In AAG Kanter’s estimate, “[w]e are not far off, if at all, from a world in which AI can learn to price fix,” and it may soon become “necessary to start training your AI like you train your employees” not to engage in anticompetitive conduct.¹² AAG Kanter also highlighted that potential anticompetitive harm is not limited to collusion. “More often than not . . .

5 Barry Nigro, Remarks at GCR Live 7th Antitrust Annual Law Leaders Forum (Miami, Feb. 3, 2018); see Pallavi Guniganti, *US DOJ Deputy: Algorithmic Cartel Requires Agreement*, GCR (Feb. 5, 2018), available at <https://globalcompetitionreview.com/us-doj-deputy-algorithmic-cartel-requires-agreement>.

6 Andrew Finch, Keynote Address at Annual Conference on International Antitrust Law and Policy (New York Sept. 14, 2017), available at <https://www.justice.gov/opa/speech/acting-assistant-attorney-general-andrew-finch-delivers-keynote-address-annual-conference>.

7 FTC Hearing #7: The Competition and Consumer Protection Issues of Algorithms, Artificial Intelligence, and Predictive Analytics, Hearings on Competition and Consumer Protection in the 21st Century (Nov. 13-14, 2018), available at <https://www.ftc.gov/news-events/events/2018/11/ftc-hearing-7-competition-consumer-protection-issues-algorithms-artificial-intelligence-predictive>.

8 Bruce Hoffman, *Welcome and Introductory Remarks*, FTC Hearing #7: The Competition and Consumer Protection Issues of Algorithms, Artificial Intelligence, and Predictive Analytics, Hearings on Competition and Consumer Protection in the 21st Century (Nov. 14, 2018) available at http://www.ftc.gov/system/files/documents/public_events/1418693/ftc_hearings_session_7_transcript_day_2_11-14-18_0.pdf.

9 Richard A. Powers, Remarks at Cartel Working Group Plenary: Big Data and Cartelization, 2020 International Competition Network Annual Conference (Washington DC (Virtual) Sept. 17, 2020), available at <https://www.justice.gov/opa/speech/deputy-assistant-attorney-general-richard-powers-delivers-remarks-cartel-working-group>.

10 *Id.*

11 *Id.*

12 Jonathan Kanter, Remarks at 21st Annual International Competition Network Conference (Berlin May 5, 2022); see Alex Wilts, *Kanter: Antitrust Division Investing in Technological Expertise to Address AI Collusion*, GCR (May 5, 2022), available at <https://globalcompetitionreview.com/gcr-usa/article/kanter-antitrust-division-investing-in-technological-expertise-address-collusion-in-ai>.

monopolies are interested in building moats” to protect themselves from competition. Kanter reiterated that “these kinds of market realities often spurred by technology are just as relevant” in criminal enforcement as in civil enforcement.¹³

III. LITIGATION DEVELOPMENTS

To date, there have been relatively few litigated actions resolving allegations of anticompetitive harm due to the use of algorithms and no examples of liability predicated on an agreement reached solely between independent AI without human involvement.

In 2015, the DOJ successfully prosecuted David Topkins, who pleaded guilty to participating in a conspiracy to adopt specific pricing algorithms to coordinate prices for wall posters he and coconspirators sold through the Amazon Marketplace. The DOJ’s information charging Topkins specifically included reference to conversations between Topkins and co-conspirators regarding price, an agreement between the participants in the conspiracy to adopt “specific pricing algorithms for the agreed-upon posters with the goal of coordinating changes to their respective prices,” and allegations that Topkins wrote computer code that instructed algorithm-based software to avoid price competition between the conspiring sellers.¹⁴

Also in 2015, private litigants sued Uber alleging that the pricing and payments mechanism underpinning the Uber ride-share app constituted an anticompetitive agreement in violation of Section 1. The plaintiffs alleged that the Uber app’s design supported a hub-and-spoke conspiracy, where each driver charged prices determined centrally by the algorithm, knowing that other drivers would not be undercutting that price. The court found the allegations in the complaint sufficient to withstand a motion to dismiss.¹⁵ But in 2020, after the case moved to arbitration, the arbitrator found that plaintiff-claimant failed to establish a hub-and-spoke conspiracy because there were “no spokes in the traditional sense but merely numerous vertical and individual contractual relationships between Uber and its many drivers.”¹⁶

In January 2022, the Washington State Attorney General simultaneously filed suit and entered into a consent decree with Amazon relating to allegations that the company’s “Sold by Amazon” program, violated Washington’s Consumer Protection Act. The complaint alleged that several hundred “Sold by Amazon” contracts entered into between Amazon and third-party sellers on amazon.com that were competing with Amazon’s own online consumer sales unreasonably restrained trade. According to the Washington Attorney General, Amazon invited participants into the “Sold by Amazon” program on an invitation-only basis. The participants were third-party sellers with whom Amazon had previously competed for online consumer sales on its online marketplace.

The Washington Attorney General alleged that Amazon offered these selected third-party sellers a guaranteed minimum payment if they would refrain from competing on price with Amazon, with proceeds exceeding the minimum price shared between the seller and Amazon. The Washington Attorney General alleged that this program resulted in a reduction of competition because Amazon programmed its pricing algorithm to match the prices that certain other retailers offered to consumers and set the third-party seller’s pre-enrollment price as the minimum price.

As prices of enrolled products increased, sales of enrolled products with whom Amazon had previously competed for online sales declined. Faced with price increases, some consumers opted to buy Amazon Retail’s products, particularly its private label products. The Washington Attorney General also alleged participating sellers had “limited, if any, ability to lower the price of their products without withdrawing the product’s enrollment in the Sold by Amazon program.”¹⁷ Under the consent decree, Amazon agreed to end the Sold by Amazon program, provide annual antitrust compliance updates to the Attorney General’s office, and pay \$2.25 million to the Attorney General’s office.¹⁸

And, just last month, a class action complaint was filed against Uber and Lyft on behalf of certain drivers in California asserting claims under California’s Cartwright Act and Unfair Competition Law. Among other assertions, Plaintiffs claim that the defendants’ business models

13 *Id.*

14 *United States v. Topkins*, No. CR 15-00201 (N.D. Cal. 2015) (Information and Plea Agreement available at <https://www.justice.gov/atr/case/us-v-david-topkins>).

15 *Meyer v. Kalanick*, 174 F. Supp. 3d 817 (S.D.N.Y. 2016).

16 Arbitration Award at 9, *Meyer v. Uber Technologies, Inc.*, No. 01-18-0002-1956 (AAA Feb. 22, 2020), available at ECF No. 182-16, *Meyer v. Kalanick*, No. 1:15-cv-09796-JSR (S.D.N.Y. May 22, 2020).

17 Complaint at ¶¶ 22-28, *Washington v. Amazon.com, Inc.*, No. 22-2-01281-1 SEA (Wash. Sup. Ct. Jan. 26, 2022).

18 Press Release, AG Ferguson Investigation Shuts Down Amazon Price-Fixing Program Nationwide (Jan. 26, 2022), <https://www.atg.wa.gov/news/news-releases/ag-ferguson-investigation-shuts-down-amazon-price-fixing-program-nationwide#:~:text=AG%20Ferguson%20investigation%20shuts%20down%20Amazon%20price%20fixing%20program%20nationwide,-FOR%20IMMEDIATE%20RELEASE&text=SEATTLE%20%E2%80%94%20Attorney%20General%20Bob%20Ferguson,Sold%20by%20Amazon%E2%80%9D%20program%20nationwide>.

constitute “vertical price-fixing” because the companies use “hidden” and “secret” algorithms that determine the price charged and then require drivers to charge that amount to the customer. Plaintiffs claim that there is resultant harm “in both the labor market as well as the consumer market.”¹⁹ There have been no substantive rulings in the case to date.

IV. CONCLUSION

The landscape and legal risks relating to algorithms and artificial intelligence continues to evolve, posing compliance challenges and necessitating nimble compliance protocols that can be adapted as new risks become apparent. Recent statements by antitrust enforcers suggest that they will be focused not just on the use of AI to facilitate collusion, but also the use of AI more broadly as part of an anticompetitive exclusionary strategy. It is reasonable to assume private plaintiffs increasingly will be bringing competition cases based on AI-based theories of harm.

Firms should target compliance training for employees responsible for implementing and programming algorithms and AI related to pricing and other competitive activities — just as they already provide targeted training to employees that interface with competitors as a part of their job responsibilities — to ensure that they understand the most up-to-date antitrust risks and rules of the road. This is particularly important as enforcers and private plaintiffs scrutinize AI-facilitated collusion and unilateral anticompetitive conduct by firms with significant market positions. Businesses must ensure that their compliance programs are equal to the task of identifying and mitigating potential risk in this rapidly changing environment.



¹⁹ Complaint, *Gill v. Uber Techs., Inc.*, No. CGC-22-600284 (Super. Ct. Cal., S.F. Cnty. June 20, 2022).

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