

“Is artificial intelligence the future of the cartel?”

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Imagine buying a book. You go online to check prices. With a few keystrokes, you get an overview of the different options and buy the book from the online retailer that offers the lowest price. In such a situation, there will be intense price competition for the benefit of consumers. But, for online retailers, intense price competition will mean low profits. On the market, however, there is a supplier who has developed a price robot that guarantees online traders increased earnings. The robot uses all available information such as online retailers' previous prices, people's reading habits at different times of the year, etc. It is self-learning and experiments to determine which pricing strategy gives the highest profit. The online retailers think this seems promising and independently choose to acquire such a price robot. After the price robots have experimented for a period, prices rise to a higher level. What happened? The robots have stopped competing on price in favor of a strategy that delivers collusive prices. The online retailers are delighted - profit has increased! Consumers, on the other hand, are losers.

Is price cooperation between robots science fiction? The answer is no. As of 2016, US and UK competition authorities had their first cartel case involving illegal price cooperation using price bots. Two online retailers who sold Justin Bieber products through Amazon had agreed to use a price algorithm that should not undercut the other's price. The companies admitted the relationship and were convicted of illegal price cooperation. But what if the companies had not spoken together and instead had used such a price algorithm independently of each other as in the example above? Would they then have been convicted of cartel cooperation?

This question is posed by famed competition economist Joseph Harrington in a new research article motivated by the rapid development of digital markets and the emergence of sophisticated price robots. He claims that today's competition rules are based on cartel operations being carried out by humans and not machines, and have required proof of communication between persons in competing companies in order for competition law to be violated. Such communication is not necessarily relevant in digital markets when companies leave the pricing to robots, Harrington claims. This is partly due to the fact that price-fixing in such markets requires only communication between machines and not between individuals, but also the fact that the pricing algorithm has been written down in the software so that the competition authorities can verify whether it is set up to result in collusive prices. Harrington therefore proposes that the competition rules be expanded with a ban on the use of price robots, or what he calls autonomous agents, which demonstrably lead to cartel pricing. Companies that consider using a price robot will then be responsible for investigating whether it contains illegal algorithms. Similarly, suppliers of such price robots could be prevented from developing software that leads to cartel prices.

Digitization and price algorithms are high on competition authorities' agendas. Margrethe Vestager, who is the EU Commissioner for Competition, recently stated in a speech that: "... when we look at the challenges of cartel enforcement in the future, there is a risk that automated systems can lead to more effective cartels ... So as competition managers, I think we should make it very clear that companies cannot escape responsibility for collusion by hiding."

The signals are clear. The competition authorities are preparing for a world where pricing is done automatically. Those who try to hide a cartel behind price bots must count on being responsible. Then time will show if a separate ban is required, as Harrington argues for.

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