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Artificial Intelligence (AI) and the Future of Digital Single Market – Competition Issues

An EU competition law practitioner's perspective

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1. EU competition law issues potentially arising from the use of AI have practical implications on how antitrust counsel should advise clients developing or applying AI.

2. There is a wide spectrum of potential EU competition law issues arising from the use of AI:

    a. *AI can facilitate collusion.* This happens where AI allows businesses to exchange information that is competitively sensitive, forward-looking, disaggregated and company-specific.

        i. At one end of the spectrum, there is little doubt that the use of pricing algorithms to implement resale price maintenance (RPM) or a price fixing cartel is illegal (e.g. Case 50223, CMA Decision, *Online sales of posters and frames*).

        ii. At the other end of the spectrum, the application of antitrust rules on self-learning pricing algorithms is more complex.

            1. It is settled case law that competitors can intelligently adapt to the market without infringing antitrust law, as long as there is no "concurrence of wills" between them, replacing independent decision making with collusion (*Wood Pulp II*).

            2. However, it is an open question whether self-learning algorithms that signal prices to each other and learn to follow the price leader would fall within this safe harbour.

            3. There is no precedent to date on this latter scenario, but the case law on price signalling may provide a useful analytical framework (e.g. Case 39850, EU Commission Decision, *Liner Shipping*). In *Liner Shipping*, 14 container liner shipping companies regularly announced their intended future increases of freight prices on their websites, via the press, or in other public ways. These announcements were in absolute price percentage increases, did not provide full information on new prices to customers, but merely allowed the carriers to be aware of each others' pricing intentions and made it possible for them to coordinate their behaviour.

    b. *AI can facilitate exploitation of market power or foreclosure of competitors.* This can happen through a merger or an exclusive cooperation agreement resulting into the combination of a large and unique set of Big Data; or it can happen where a dominant company's use of such large and unique set of Big Data does not constitute "competition on the merits". Recent examples include:

i. Mergers in which the EU Commission has considered the question of the accumulation of Big Data and its impact on competition (e.g. Case COMP/M.7217, *Facebook/WhatsApp*; Case COMP/M.6314, *Telefonica UK/Vodafone UK/Everything Everywhere/JV*; Case COMP/M.4731, *DoubleClick*; Case COMP/M.8124, *Microsoft/LinkedIn*; Case COMP/M.4726, *Thomson/Reuters*).

ii. A recent example of abusive leverage of a dominant position facilitated by AI to discriminate against competitors or customers is the Google shopping case (e.g. Case AT.39740, EU Commission Decision, *Google Search (Shopping)*).

iii. The German competition case against Facebook is another relevant example. In that case, the Bundeskartellamt issued provisional findings that Facebook is abusing its dominant position by making the use of its social network conditional on its being allowed to limitlessly amass data generated by using third-party websites and merge it with the user's Facebook account.

All of these cases demonstrate that the application of traditional antitrust concepts to the use of AI is far from straightforward.

3. Even assuming that an anti-competitive object or effect is established, the question arises whether antitrust liability can be established, if business decisions are made by self-learning machines rather than by the companies.

a. Liability can only arise from an anti-competitive conduct that is committed "intentionally" or "negligently".

b. Defining benchmark for illegality requires assessing whether any illegal action was anticipated or predetermined (e.g. through programming instructions) or whether could have reasonably been foreseen. The EU Commission Note to the OECD on *Pricing Algorithms and Collusion* makes an interesting statement in this regard: "*An algorithm remains under a firm's direction and control and therefore the firm is liable for the actions taken by the algorithm*". This sounds like a presumption of direct liability, but it remains to be seen whether such a presumption would find support in the existing case law on liability.

c. The use of AI can also be an aggravating circumstance. For example, in the pending investigation into retail price agreements involving Asus (Case AT.40465), Denon & Marantz (Case AT.40465), Philips (Case AT.40181) and Pioneer (Case AT.40182), the Commission stated: "*the effect of these suspected price restrictions may be aggravated due to the use by many online retailers of pricing software that automatically adapts retail prices to those of leading competitors*." However, there seems to be a disconnect here between anti-competitive conduct and aggravating circumstance: the alleged infringement is RPM committed by Supplier A and Retailer B, while the aggravating circumstance consists of the use of pricing matching algorithms by Retailers C and D, who are not parties under investigation. It will be interesting to see how the EU Commission reconciles this disconnect in its final decision.

d. So, who is liable for the decisions and actions of AI: the programmers, users, or beneficiaries?

4. These complexities have also an impact on how antitrust counsel should advise businesses developing and/or applying AI. Some practical tips (mostly common sense):

    a. Counsel should understand why and how businesses intend to use AI, particularly:

        i. How AI will aid business processes;

        ii. What information will be processed and exchanged with other parties;

        iii. Which other parties will participate in the AI "network" and which will be excluded;

        iv. Whether the AI "network" will be public or private and, if private, who are the "nodes" of the AI "network".

        v. What is the "relevant market", what is the position of the business on such a market, and what is the role of network effects. Some of these elements will also require economic input.

    b. Counsel should then assess the potential antitrust risks (e.g. is it RPM, hub and spoke, or foreclosure, etc.?) and try to disentangle the pro-competitive effects from the anti-competitive effects.

    c. Compliance safeguards could include changes to the AI structure, use or policies. This will depend on the circumstances of each case. For example:

        i. As regards Big Data pooling agreements, companies could send their data to a platform, and get back aggregate data with no indication of which company it comes from. That would still give companies information that would help build better cars or make existing ones run better - without undermining competition. Or companies might limit the type of information they share. So car companies might decide not to share information that would tell rivals too much about their technology. Online shops might share data without saying when products were bought, or for how much. And companies also need to be sure that pooling data doesn't become a way to shut rivals out of the market.

        ii. As regards pricing algorithms: in a recent speech on *Algorithms and Competition* of 16 March 2017, Commissioner Vestager said: "*What business can – and must – do is to ensure antitrust compliance by design. That means pricing algorithms need to be built in a way that doesn't allow them to collude. Like a more honourable version of the computer HAL in the film 2001: A Space Odyssey, they need to respond to an offer of collusion by saying "I am sorry, I'm afraid I can't do that*." What this means in practice for antitrust compliance will invariably depends on the facts of each case. However, it should be possible to set some ground rules based on the existing case law. For example, based on *Liner Shipping*, businesses should ensure that their pricing algorithms are programmed in a way that do not learn to signal future price increases in absolute percentage well before prices are available to consumers, and that they do not automatically match others' similar future

pricing signals. At the same time, businesses should remain free to use self-learning pricing algorithms once prices are set and signalling can benefit consumers – for example, by allowing quicker and automatic switching, like smart meters detecting signals of lower or higher prices and self-learning to switch to the supplier offering lower prices.

d. Finally, AI is a rapidly developing technology, counsel should therefore monitor the use and development of AI and reassess the initial risk analysis whenever there are significant changes or advances in technology.

5. In conclusion, whilst it may still be early days, the use of AI is already giving rise to potential practical implications for EU antitrust compliance counselling.