Comment: AI is both a concern and a tool for Singapore's competition regulator

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By Jet Damazo-Santos

Artificial intelligence is impacting the work of Singapore's competition regulator in more ways than one. In response to questions from MLex, Alvin Koh, the new chief executive of the Competition and Consumer Commission of Singapore, explained what the regulator is doing to address potential AI harms and how it plans to leverage AI for its own operations.

With Singapore topping rankings of readiness to adopt artificial intelligence in Asia-Pacific, it should perhaps come as no surprise that the country's competition regulator is also among the most forward-thinking in the region on the topic of AI.

For instance, while algorithmic collusion is still largely a theoretical harm on this side of the world, the Competition and Consumer Commission of Singapore, or CCCS, is working on a preventive tool that companies can use to test their AI systems for potential anticompetitive behavior.

This tool will be an extension of the Singapore Infocomm Media Development Authority's AI Verify toolkit, the first of its kind when it was launched in 2022 that allows companies to verify the claimed performance of their AI systems through standardized tests (see here).

The toolkit's planned antitrust extension will allow "AI companies to self-assess their AI systems before or after deployment to determine whether their systems may potentially raise competition concerns, such as recommending prices that might lead to collusion or preferencing certain products over others," CCCS Chief Executive Alvin Koh said in a written response to questions from MLex.

The CCCS has long been studying this topic. Concerns regarding the increased use of AI systems and algorithms in pricing decisions, which could increase the risk of collusion between competitors on digital platforms, were already outlined in the regulator's e-commerce platform market study published in 2020 (see here).

These include the risk of price-monitoring systems enabling competitors to automatically gather and analyze real-time data on each other's prices and decisions, making it easier to monitor actions and spot deviations from collusive agreements. There could even be an industry-wide algorithm to coordinate pricing strategies among competitors for a "hub-and-spoke" type of collusion, Koh said.

Last year, Koh's predecessor, Sia Aik Kor, also raised potential antitrust enforcement issues arising from generative AI: first, the reduced ability of regulators to study the input data that a generative AI model has been trained on; second, regulators' reduced ability to test the outcome of that AI model and understand how it works by reproducing the output (see here).

— Emerging monopolies —

Beyond algorithms, the CCCS is also monitoring other emerging theories of harm, such as the potential for a small number of firms to monopolize key aspects of AI development.

"The development of AI models requires specialized chips, substantial compute, data at scale and technical expertise. This could put a small number of companies in a position to exploit existing or emerging bottlenecks across the AI value chain and influence the future development of these models," Koh said.

This risk is further magnified by the need to rely on cloud computing for generative AI models. Koh explains that "the increasing importance of cloud computing as an 'input' for generative AI may have implications for competition in the generative AI sector."

In essence, the companies that dominate cloud computing and AI development could lock out competitors, consolidating their power and influence.

As the technology continues to evolve and its impacts become more apparent, Koh said the CCCS would continue to review and adjust its assessment and enforcement framework and toolkits.

— Leveraging AI —

To help keep up with all things AI, the CCCS is in fact also leveraging AI. Last year, the commission launched its Data and Digital, or D2, division (see here).

“The D2 division monitors regulatory developments in competition and consumer protection within digital markets globally and recommends necessary follow-up actions,” Koh said.

The division designs the CCCS’ internal technology infrastructure and systems, performs data analytics to generate market intelligence, and even conducts digital market investigations and studies.

Among the tools the division is working on are ones that rely on machine learning to improve the commission’s investigation and enforcement capabilities.

A complaint analytics tool, for example, uses natural-language processing and machine-learning techniques to cluster complaints into common themes so they can easily be analyzed. “This has greatly increased the efficiency of our officers by reducing manpower needed for manual processing,” Koh said.

Another tool, the document similarity tool, developed in collaboration with Singapore’s Government Technology Agency, uses natural-language processing algorithms to assess the degree of similarity between documents, such as bids submitted to tenders.

“This replaces the time-consuming and error-prone manual scanning process, allowing CCCS to detect similarities more efficiently in tender proposals of competitors which may be indicative of bid-rigging,” Koh added.

To equip this D2 division, the commission had its staff trained in skills such as web scraping, data analytics and machine learning, and started hiring data scientists as well.

As Koh puts it, "a multi-faceted approach is necessary to ensure that the AI market remains competitive and vibrant."

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