Antitrust & Competition: Potential Risks Arising From Use of Algorithmic Pricing Tools

The use of pricing algorithms has become more pervasive in recent years as they provide businesses with the automated means of monitoring and responding competitively to changes in market pricing. Advancements in artificial intelligence and machine learning, and in some cases the availability of large data sets on consumer behaviour, further enhance the effectiveness of such tools.

Such algorithms can however raise antitrust related risks, as their deployment can involve the exchange of commercially sensitive information or implementation of uniform pricing behaviour. They may even be used as tools to enforce collusive arrangements between competitors. While the behaviour and decisions taken by the algorithms are automatically effected and not specifically directed by a human actor, the responsibility for any antitrust infringements rests solely on the business which deployed the algorithm.

Given that these technologies can have potentially adverse effects on the competitive dynamics of the markets where they are deployed, it is not surprising that competition regulators have shown keen interest as well. For example, the Competition and Consumer Commission of Singapore's (**CCCS**) 2020 market study on e-commerce platforms (**E-Commerce Market Study**) included a section which considered the potential anti-competitive impact of pricing algorithms, and specifically warned businesses to be alert to competition law risks, and to ensure competition law compliance, when designing or deploying algorithms.

This update takes a look at common issues that arise in connection with the deployment of such algorithmic tools, the attitude of competition regulators towards the usage of such tools and what businesses which deploy such algorithms should do to address the antitrust risks that may arise.

Tools to implement collusive arrangements

Pricing algorithms may be used by colluding businesses as a means of implementing their anti-competitive agreements. An often-cited example is the *Topkins* case from the US, where certain online sellers of posters were found to have agreed to fix prices and to have implemented their agreements by adopting various pricing algorithms. In particular, the algorithms adopted in that case were written to ensure that prices were set in conformity with the relevant price-fixing agreements. A similar case in the UK involved the implementation of a price-fixing agreement using automated re-pricing software which monitored and adjusted prices to ensure conformance with the agreement.

Where pricing algorithms simply serve as tools to implement or enforce collusive agreements, they are treated no differently from "traditional" cartel conduct, e.g., where price fixing (for example) is implemented (manually without the use of algorithms) by the respective representatives of the cartel members. This should not be unexpected, as one should logically not be able to collude with its competitors simply by using an algorithm (or any other "digital" means) to implement such collusive behaviour.

From an antitrust compliance perspective, if any member of the organisation notices that a deployed algorithm exhibits suspicious behaviour, e.g., consistent and instant matching of a competitor's price increases, they should seek legal advice. Such suspicious behaviour should warrant further investigation to determine if there is a legitimate reason for the manner in which the algorithm is behaving, or if it is indicative of collusive arrangements with other competitors that are being implemented by rogue members of the organisation.

Usage of common platforms with standardised pricing parameters

Another interesting case from Europe raises the potential risk of adopting a common electronic sales platform which subsequently implements uniform pricing restrictions. The *E-TURAS* case involved an online travel booking system in Lithuania that was used by multiple independent travel agents. An email was sent to the travel agents asking for a vote on whether discounts should be reduced (and there was only a record of one agent having received it). Subsequently, a notice was sent *via* the platform indicating that discounts would be capped at 3%, and a technical restriction was set in the system to implement this cap. The European Court of Justice concluded on appeal that the travel agencies were liable for "agreeing" to such discounts by virtue of not formally responding or objecting to the notice and continuing to use the online system. This case was also specifically referenced in the CCCS' E-Commerce Market Study which recognised that the use of pricing algorithms increase the likelihood of collusion between sellers.

Businesses should always be cautious where pricing decisions are delegated to, or subject to restrictions imposed by, a third-party platform. They should seek to fully understand the mechanism by which such decisions will be made and assess if it may involve any potentially collusive aspects.

Facilitation of collusive behaviour

Factors which drive pricing-related decisions would typically be considered as commercially sensitive information, and the exchange of such information between competitors would rightly raise competition concerns.

Similarly, where pricing algorithms are concerned, the availability of information on how such algorithms operate or are coded could raise competition concerns as this in effect provides information to competitors on how a firm adjusts its pricing.

While proprietary pricing algorithms can be kept confidential, this may not be the case where a firm adopts "off-the shelf" algorithms provided by third parties. Where competitors are generally aware that a third-party algorithm is widely adopted (e.g., because it is provided as part of an e-commerce platform), and the rules/capabilities of such algorithms are generally available/known, this may potentially give competing users an insight into how their competitors will react to their pricing decisions and may reduce the uncertainty around the pricing behaviour of their competitors. This also highlights the potential risks of adopting a third-party algorithm or platform which may also be used by other competitors – the issues in the *E-TURAS* case described above (though slightly different) arose out of a similar scenario, where the travel agents were using a common online platform.

Businesses should always check if a pricing algorithm involves the use of a common set of rules that are generally available to other users. If so, they should conduct a detailed review of the relevant antitrust risks and any potential mitigants that may be available, e.g., whether the parameters of the algorithm may be customised so that its pricing strategies remain masked.

Hub and spoke cartels

A "hub and spoke" cartel refers to a scenario where competitors (the spokes) collude indirectly *via* communication with an upstream supplier or downstream customer (the hub) – e.g., retailers colluding indirectly by sharing information on retail pricing through an upstream wholesaler or manufacturer.

In the context of pricing algorithms, similar concerns may arise where a common pricing algorithm is able to make decisions based on pricing inputs from their competing users, and so each user may make pricing decisions with the expectation that such input will be fed into the algorithm and impact the pricing decisions of its competitors.

Such concerns may arise when adopting third-party pricing algorithms – businesses should always understand how a pricing algorithm works and whether (and if so how) it may share information or interact with other competitors which adopt a similar algorithm.

Impact on merger reviews

The ease with which competitors in a market are able to tacitly collude (otherwise known as coordinated effects) is an important consideration when competition authorities consider if a merger raises competition concerns. In this regard, the prevalence of the usage of pricing algorithms in a certain market may well be a factor that increases the risk of a competition authority raising concerns with any further consolidation in the market – i.e., as this would further increase the likelihood and ease of such tacit collusion in that market. In the same vein, the CCCS' E-Commerce Market Study highlighted a scenario where tacit collusion could potentially be more likely even where distinct and separate pricing algorithms, with no prior or ongoing communication, are deployed by competitors.

In conducting merger control assessments, particularly in digital markets, the prevalence of the use of pricing algorithms should not be taken lightly. For such scenarios, extra attention should be paid to arguments addressing the issue of tacit collusion – particularly those which specifically address the impact of pricing algorithms.

Attitude of competition regulators

While the application of competition laws to the use of pricing algorithms is far from settled, one consistent message from competition regulators is that businesses which deploy such algorithms are ultimately responsible for any actions/decisions taken by such algorithms that attract antitrust liability. The fact that any such actions/decisions were implemented automatically, or even autonomously (in the case of algorithms powered by artificial intelligence or machine learning), is not a defence or even a mitigating factor.

Key takeaways for businesses

With the foregoing concerns in mind, here are some of the steps that businesses may consider taking to mitigate the antitrust risks arising from the adoption of pricing algorithms:

(a) Have a thorough understanding of how the algorithms operate, particularly the inputs based on which decisions are made, so that antitrust risks can be properly assessed;

(b) Where third-party algorithms are used, be careful about how sensitive information of your business may subsequently be used by the algorithm, e.g., to feed into pricing decisions of other users that adopt the same algorithm;

(c) Where the pricing algorithm has the ability to develop autonomously, its behaviour should be monitored periodically to assess if any new antitrust risks arise;

(d) Conduct antitrust compliance training for persons in charge of deploying or programming pricing algorithms, and if necessary, documenting antitrust compliance processes/checklists specific to the deployment of pricing algorithms; and

(e) Be on the lookout for unusual pricing decisions implemented by a pricing algorithm (e.g., consistent matching of a competitor's price increases) that may suggest the presence of an underlying collusive arrangement.

Lastly, while pricing algorithms are more commonly associated with online markets, businesses should be mindful that they could also be used in offline settings – i.e., where prices are set "manually" based on directions from pricing algorithms. The same considerations highlighted above would similarly apply where such algorithms are deployed.

If you would like information or assistance on the above or any other area of law, you may wish to contact the Partner at WongPartnership whom you normally work with or any of the following Partners:

Ameera ASHRAF
Head – Antitrust & Competition
d: +65 6416 8113
e: ameera.ashraf@wongpartnership.com
Click here to view Ameera's CV.

CHAN Jia Hui
Partner – Antitrust & Competition
d: +65 6416 2794
e: jiahui.chan@wongpartnership.com
Click here to view Jia Hui's CV.

Connect with WongPartnership.

WPG MEMBERS AND OFFICES

- contactus@wongpartnership.com

SINGAPORE

-
WongPartnership LLP
12 Marina Boulevard Level 28
Marina Bay Financial Centre Tower 3
Singapore 018982
t +65 6416 8000
f +65 6532 5711/5722

CHINA

-
WongPartnership LLP
Shanghai Representative Office
Unit 1015 Link Square 1
222 Hubin Road
Shanghai 200021, PRC
t +86 21 6340 3131
f +86 21 6340 3315

MYANMAR

-
WongPartnership Myanmar Ltd.
Junction City Tower, #09-03
Bogyoke Aung San Road
Pabedan Township, Yangon
Myanmar
t +95 1 925 3737
f +95 1 925 3742

INDONESIA

-
Makes & Partners Law Firm
Menara Batavia, 7th Floor
Jl. KH. Mas Mansyur Kav. 126
Jakarta 10220, Indonesia
t +62 21 574 7181
f +62 21 574 7180
w makeslaw.com

MALAYSIA

-
Foong & Partners
Advocates & Solicitors
13-1, Menara 1MK, Kompleks 1 Mont' Kiara
No 1 Jalan Kiara, Mont' Kiara
50480 Kuala Lumpur, Malaysia
t +60 3 6419 0822
f +60 3 6419 0823
w foongpartners.com

MIDDLE EAST

-
Al Aidarous Advocates and Legal Consultants
Abdullah Al Mulla Building, Mezzanine Suite 02
39 Hameem Street (side street of Al Murroor Street)
Al Nahyan Camp Area
P.O. Box No. 71284
Abu Dhabi, UAE
t +971 2 6439 222
f +971 2 6349 229
w aidarous.com

-
Al Aidarous Advocates and Legal Consultants
Oberoi Centre, 13th Floor, Marasi Drive, Business Bay
P.O. Box No. 33299
Dubai, UAE
t +971 4 2828 000
f +971 4 2828 011

PHILIPPINES

-
ZGLaw
27/F 88 Corporate Center
141 Sedeño Street, Salcedo Village
Makati City 1227, Philippines
t +63 2 889 6060
f +63 2 889 6066
w zglaw.com/~zglaw

wongpartnership.com