

COMPETITION IN ASIA IN THE ALGORITHMIC ERA: IMPLICATIONS ON REGULATORS AND CONSUMER WELFARE IN MALAYSIA AND INDIA

Written by *Angayar Kanni Ramaiah** & *Praveen Tripathi***

** Senior lecturer, Universiti Teknologi MARA, Cawangan Pulau Pinang, Malaysia*

*** Assistance Professor, School of Law, Bennett University, Greater Noida, India*

ABSTRACT

Algorithms and Artificial Intelligence (AI) are key to success in the digital economy. The Algorithm supported by AI has transformed the decision-making process and disrupted all aspects of human life. The algorithm-generated marketing benefited Asian businesses plethora but, on the flip, has equally facilitated anti-competitive business practices and undermined their consumer welfare. The algorithms deployed have a far-reaching impact on the consumer markets. The algorithm fosters tacit collusion or abuse of dominance that alters the consumers' choice and creates search bias favouring the dominant firm or its verticals. Cases reveal algorithm uses AI to collude prices resulting in different consumers being charged different amounts for the same goods or services, besides filtering their choice and causing unfair diversion of search pages in a manner affecting the competitor's volume of business by either pushing down or pushing out. Meanwhile, the criteria for ranking the "relevant" results cannot be effectively proven. And the ways algorithms form market-based interaction between competitors inter se and consumers, to collude (or use of algorithms to drive out competition) unable to be ruled as the digital feature has posed a major challenge on the competition law application. The paper examines the legal-policy challenges in Asian shore by reference to India and Malaysian firstly, examining the challenges on the standard of analysis and evidence to prove algorithmic collusion, abuse, and dominance. Secondly, human-related liability or accountability on computers' behaviour with reference to Grab, Amazon and Google, India. The discussion proposes intervention options with regard to advanced jurisdictions like the European Union to propose improvement.

Keywords: Competition Law; Algorithm; Collusion; Dominance; Pricing and Search Bias.

INTRODUCTION

Competition Law (CL) is traditionally designed to conduct and regulate ‘trust’ among corporations that mutually control commodity output and prices. In the era of the digital economy, digital platforms' usage of algorithms and artificial intelligence (AI) with a combination of data (with technologically advanced tools) has changed the competitive landscape previously controlled by the human factor. Data is a source of tremendous value in the digital economy. There is hugely positive and negative potential in the digital economy. Its development has been almost entirely market-led, with little to no strategic policy response from governments worldwide (Lawrence, M & Langton, L.L, 2018). CL infringements such as price-fixing are no longer made in meetings or closed-door but by computer programs, the new game-changer. Firms use computer algorithms to improve their pricing models, customise services and predict market trends, which could generate efficiencies. These algorithmic computer programs independently collect data besides monitoring the consumer transaction and use the results to set-piece at a speed that humans cannot reach (Pichat, P. G & Freund, B., 2018). These digital advances have positive and negative effects on competition and consumer welfare. While the paper does not intend to question whether the algorithm is good or bad, but attempts to address the impact and potential effect from the competition law perspective to present the scope of law and infringement assessment tools to prohibit the anti-competitive activity resulting from the algorithmic-based marketing activity.

The ever-increasing widespread usage of algorithms has facilitated possible anti-competitive effects by making it easier for firms to achieve and sustain collusion without formal agreement or human interaction. Application of CL is now going through a particular era to discover how to work when humans no longer make decisions, but instead by machines? In this perspective, the paper examines whether the competition authority could still use the traditional anti-competitive assessment concepts or should reconsider the other aspects such as tacit collusion and whether any antitrust liability can be imposed on the algorithms’ creators and users (OECD, 2017). The paper discusses the role of digital butler *inter alia* algorithm related challenges and its impact on competition and consumer welfare. The article critically reviews whether algorithms facilitate coordination in markets that are otherwise not prone to it and

reduce the negative welfare effects by referring to specific cases in India and Malaysia. The paper examines the capability of the current competition law ability to address the risk of harm and its limitation in addressing the algorithmic effect on competition under the scope of Competition law in Malaysia and India.

This paper begins with a brief introduction to the foundations of Asian CL. It continues with a discussion on the challenges posed by the digital features and usage of algorithms and its implication on consumer welfare in the wake of the new economic reality. The digital market risks potential anti-competitive collusions, algorithmic price-fixing manner and application of tacit collusion on consumer choice and preference. This paper subsequently considers the ability Competition Act 2010 prohibition to address the risks of algorithmic invasion in the digital platform industry. The purpose is to assess and highlight the limitations of the legislative framework in Asia and Malaysia, specifically to address algorithmic-related anti-competitive activity. The paper proposes regional collaboration to address these anti-competitive issues better. Antitrust authorities need to address three key enforcement challenges across jurisdictions: i) Does the competition agency have adequate tools to manage the problems of an algorithm-driven economy? ii) Whom should the competition authorities hold liable in case of an advanced and complex tacit collision involving the difficult legal issues of human accountability of a computer's behaviour? iii) When is the appropriate time for competition agencies to intervene?

THE ALGORITHM AT A CROSSROADS OF COMPETITION LAW IN ASIA

(a) Asian Competition Law Regimes: Malaysia and India

Competition law (CL) has become a major interest in Asia. It became the centre of political and economic debates, with implications extending beyond its discipline amidst the digital economy. Hence, CL perceived major enforcement challenges on digital markets and platforms at the crossroad of algorithmic computation. CL in Asia emerged as a major trade requirement and market liberation policy. And as other Asian nations, India and Malaysia, as members of the Association of Southeast Asian Nations (ASEAN), are on the road map to strengthening

their competition laws and regulations in line with established regimes like Japan, South Korea, China, and Taiwan.

ASEAN had actively promoted regional competition policies under the ASEAN Economic Community (AEC, 2015) agreement, closely following the European Union (EU). Malaysia introduced its Competition Act in 2010 in pursuance of the AEC agreement. The CA 2010 presently have provision to prohibit only anti-competitive agreements (horizontal agreements including cartels and vertical agreements) and abuses of dominant position. However, the absence of merger control powers has deprived the agency and the government of a more direct influence over changes in market structures that may be opposed to competition. However, the Malaysian Competition Commission (MyCC) experienced a serious jurisdictional limitation in controlling anti-competitive effects in recent digital merger cases such as Uber- Grab Merger case.

Meanwhile, India has developed its version of competition law, evolving over the 40 years ever since the Monopolies and Restrictive Trade Practices Act 1969 (MRTP Act). Their legislation is based on principles of a “command and control” economy, designed to put in place a regulatory regime in the country which did not allow concentration of economic power in a few hands that were prejudicial to the public interest and therefore prohibited any monopolistic and restrictive trade practices. Strictly speaking, MRTP Act was not competition law as understood today; it focused more on the de-concentration of monopolies rather than fostering competition in the market. Post-economic liberalisation in 1991, it became imperative to implement a competition law regime that was more responsive to the nation’s economic realities and consistent with international practices. Consequently, in 2002, the Indian Parliament approved comprehensive competition legislation — the Competition Act 2002 (Competition Act), to regulate business practices in India to prevent practices from having an appreciable adverse effect on competition (AAEC) in India. The Competition Act primarily seeks to regulate three types of conduct: anti-competitive agreements, abuse of a dominant position and combinations (i.e., mergers, acquisitions, and amalgamations). The Competition Act was amended by the Competition (Amendment) Act 2007. However, the enforcement of the Competition Act came into force on 20 May 2009, when the Government of India notified the provisions related to anti-competitive agreements and abuse of the dominant position of the

Competition Act. It took two more years for the merger control provisions of the Competition Act to be brought into force in June 2011.

Competition law comprises a set of rules that govern how businesses interact with each other and with the consumer in the marketplace. The Model Law on Competition put forward by the United Nations Conference on Trade and Development (UNCTAD) outlines the aim of competition policy generally firstly, to control or eliminate restrictive agreements or arrangements among enterprises, mergers and acquisitions or abuse of dominant positions of market power, which limit access to markets or otherwise unduly restrain competition, adversely affecting domestic or international trade or economic development. (UNCTAD 2000). Meanwhile, some jurisdiction also includes unfair methods of competition (Japan and China) (Lin, P. (2002)). Thus, CL law covers three main domains: restrictive agreements or arrangements, the abuse of market power, and mergers and acquisitions. However, the scope of substantive and procedure terms, content, coverage in the respective CL and enforcement of the domains varies according to the country. The Malaysian Competition Act 2010 does not regulate mergers.

(b) Implication of Algorithm and related features on Competition

The words 'algorithm' and 'algorism' come from a Persian mathematician called *Al-Khwārizmī*, referred to simply as a "list of steps". The algorithm computes step by step procedures to solve logical and mathematical problems in more than one way to solve a problem. It's like a recipe which it tells you what you need to do step by step by taking inputs (ingredients) and producing an output (the completed dish) (Wikipedia). Meanwhile, AI is described by Niranjana Krishnan, head of data science at Tiger Analytics, as a group of algorithms that can modify its algorithm (i.e. AI determines what action to take based on the data – or so as what people do) and create new algorithms in response to learned inputs and data as opposed to relying solely on the inputs it was designed to recognise as triggers. This ability to change, adapt and grow based on new data is described as "intelligence." Hence it operates in an automated mode without any human intervention. Data is created, transformed and moved without data engineers. Business actions or decisions are implemented without any operators or agents. The system learns continuously from the accumulating data, and business actions and outcomes get better and better with time," said Niranjana Krishnan, head of data science at Tiger Analytics. Dr Mir Emad Mousavi, the founder and CEO of QuiGig, described that AI and algorithms areas the relationship between

“cars and flying cars.” So present digital economy must address both their significance to assess its consequences on the consumer market (Ismail, Kaya., 2018, Okt 28).

Although originating in computer science, algorithms are simply the setting of “if-then” rules. But several factors, easy-to-use predictive analytics and data-visualization tools, the proliferation of mobile devices, and companies’ ability to track and measure customer behaviours have helped companies find an astonishing variety of ways to use algorithms, particularly in marketing (Utpal M. Dholakia,2015). Algorithms help marketers utilise customer-specific knowledge of demographics, previous behaviour, and fellow customers’ choices — to craft customised offers and deliver them, often in real-time. They help companies track customers, cross-sell to them, and promote products. Banks use algorithms to suggest new products to customers. Online retailers deploy them to set and change prices, and media companies rely on them to recommend and deliver streaming content and ads (Utpal M. Dholakia,2015). Thus, it was warned that companies should be cautious about it for four reasons, i.e. firstly, Algorithms aren’t sensitive enough to context; secondly, they arouse suspicion and can easily backfire; thirdly, they encourage complacency and lastly, they stifle customers’ emotional responses to marketing offers for marketing (Utpal M. Dholakia,2015).

Hence, analytics and algorithms fail to understand that we cannot measure the unmeasurable and in the context of human tendency comprised of contextual marketing and a psychological approach to customer behaviours that emphasise the development sectors, emphasising understanding an ecosystem conditioning individuals and influencing their choices. Whereby described as if promotion consisted of brand-created messages in the past, with every brand claiming its products were the best. But today, a brand is defined based on “what consumers say about it”. The businesses are directed towards contextual marketing and data-driven methods to help companies better understand their customers. New techniques like clustering and text analysis help identify influencers and non-obvious factors affecting buying behaviour (We are Innovation, 2015).

Algorithms can be the tool for establishing explicit collusion. Although competitors' use of identical pricing algorithms is arguably not unlawful, it can help competitors unlawfully align their prices as part of a joint and consented strategy to reduce competitive pressure (Picht, P. Georg and Loderer, G.T., 2018). The growing importance of algorithms in society is a direct

consequence of their enhanced adoption by industries. According to Stucke and Ezrachi (2016), the concept of “algorithmic business” uses complex algorithms to improve business decisions and automatize processes for competitive differentiation. Businesses adapt algorithms and rely on them for predictive analytics and optimisation of business processes. This predictive analytics involves the development of algorithms to measure the likelihood of future outcomes based on the analysis of historical data besides being used to estimate demand, forecast price changes, predict customer behaviour and preferences, assess risks and forecast endogenous or exogenous shocks that might affect the market environment, such as the entry of new firms, variations in exchange rates or even natural disasters. This information can be extremely valuable to improve their decision-making, planning their business strategies efficiently and developing innovative and customised services that would not be possible otherwise. The same algorithms can also be implemented to optimise business processes, allowing businesses to gain a competitive advantage by reducing production and transaction costs, segmenting consumers or setting optimal prices that effectively respond to market circumstances. The amazing ability of algorithms to optimise processes results from their automated nature and great computation power, which allows them to process large datasets, react fast and incur a lower cost than what would be observed if the same tasks were performed by humans (OECD, 2017). This challenges the existing law and legal tools as to whether anti-competitive infringement action must be now de-humanised to be imposed on the algorithms’ creators and users

Algorithmic computation at the crossroad Competition Law

One of the greatest tests in the digital economy is the usage of algorithmic tools, which interferes with the competition law dimensions. CL certainly has become an area of law that closely monitors algorithmic phenomena because the usage of algorithms potentially will lead to undesirable results on a large and a small scale. Although the algorithms used today may be low in their level of sophistication. Still, as they become more complex and move towards an ‘intelligent’ state, they are likely to change almost all areas of human life disruptively. The simple algorithms widely deployed in many industries today can significantly impact the forms and conditions for competitive business conduct in these markets. This factual evidence justifies mandating CL to scrutinise algorithmic implications and intervene where they risk distorting competition. The interaction of algorithms and their collusive potential is (at present)

one focal point of this mandate besides being big data-based market power. However, presently it seems not clear how CL has, in its present shape, the necessary rules and techniques to perform the task. Now, criteria for ranking the “relevant” results cannot be effectively proven, and the way the algorithms are forming the basis of various market-based interactions between competitors inter se and consumers and related anti-competitive collusion (or use of algorithms to drive out competition) also can’t be ruled out. Hence the paper will look at other jurisdictions, which are more advanced in this respect, and learn from their experience (Picht, P.G. & Loderer, G., 2018). The paper discusses the challenges raised by algorithms. Do algorithms facilitate coordination in markets otherwise not prone to it and reduce the negative welfare effects of algorithmic-facilitated coordination by reference to specific cases of concern in Asian jurisdictions generally and specifically in Malaysia.

ALGORITHMIC CHALLENGES TO COMPETITION LAW ENFORCEMENT

(a) Usage of algorithm and digital economy platforms

Competition law regulation and regulators are being put to the test in trying to take the appropriate action on platform apps such as Google, Amazon, Uber and Grab apps for fixing seller’s prices (unlike price-fixing) on their platform (Nowag, J., 2018) and related abuse of dominance and consumer choice/preferences. Technology is not deterministic. It creates both opportunities and challenges. In close dialogue with other stakeholders, it is up to governments to shape the digital economy by defining the game’s rules. National policies play a vital role in preparing countries for value creation and capture in the digital era. Given the cross-sectoral nature of digitalisation, the whole-of-government response is important to formulate and implement policies to secure benefits and deal with challenges (UNCTAD, Digital Economy Report, 2019).

One of the main risks of algorithms is that they expand the grey area between unlawful explicit collusion and lawful tacit collusion, allowing firms to sustain profits above the competitive level more easily without necessarily agreeing. For instance, in situations where collusion could only be implemented using explicit communication, algorithms may create new automatic mechanisms that facilitate the implementation of a common policy and the

monitoring of the behaviour of other firms without the need for any human interaction. In other words, algorithms may enable firms to replace explicit collusion with tacit coordination (OECD, 2017).

The technical capability of online platforms to collect data compared to the traditional market arguably makes consumers face compromises regarding giving away their privacy. Although no monetary payment is expected, consumers /search give their attention and provide the platform with their data. The use of this data for purposes targeted as advertising could impact, if not predetermined, the consumer's choice. Hence the personalised service of the Internet may provide online platforms to start reading the consumer's mind. This pattern of behaviour of Internet users must be acknowledged and included in the analysis of online platform competition. Whereby if in the traditional market, consumers are, as a rule, regarded as the beneficiaries of competition, online markets appear to be also part of "the game", according to Gintare Surblyte. She further reiterated two parameters of importance: their data and their attention, but due to the scarcity of the latter, the parameters of competition shift to the rivalry for attention. Hence, on top of the legal, economic and technological aspects of the competition law analysis, behavioural aspects (such as whether optimistic or trusting) may be deemed to come into play in analysing the impact on competition.

Digital online commerce business has greater transparency, ensures dissemination of symmetric information and ease of doing business. Henceforth has low entry barriers and the opportunity to expand without hurdles and reduces the concentration of power in the hands of one player, making monopolies a rare event in the market. Although the virtual market may closely resemble a perfect competition, in reality, this online platform is largely driven by the evolution of Big Data & Analytics and self-learning algorithms. Hence the use and value of Big Data have increased with the rise of Big Analytics, the ability to design algorithms that can access and analyse vast amounts of information. For instance, Amazon, an online shopping platform, uses computer algorithms to adjust pricing automatically rather than manually. These algorithms scoop personal and market data to match the best prices for the products available on the shelf. This could lead to a 'data advantage' scenario amongst companies to harvest greater profits in the market. As online sellers would begin to rely on Artificial Intelligence and algorithmic pricing, their rivals will likely be tempted to develop 'smart' algorithmic pricing to sustain the competitive pressure. The possible use of sophisticated pricing algorithms

and Artificial Intelligence to collude, which may lead to conscious parallelism and their effect on competition in the virtual market, eventually becomes a policy concern. The Google case amply demonstrates this, recently adjudicated by the Competition Commission of India ('Commission') (Singh, Nidhi, 2018).

For example, in Google's case, its search engine cannot evaluate the quality of its search results (since the latter are "credence goods"), so it is then not an expectation or just a pure belief of the consumers that Google is the best search engine and thus their habit of using it? Would anything change if Google were to decrease the quality of its search results? Would consumers even notice that? Would it depend on the extent of such a decrease? Could stricter protection of data influence the parameters of competition? Do consumers know how much data and what kind of data is collected? Would they still be reluctant to give away some of their data in light of the possible positive effects of targeted advertising? The algorithm, in this respect, can interfere with behaviour patterns online and notch the expected behaviour (Surblyte, 2015).

Furthermore, Google and Microsoft's case reflects the platform model upon which the function they hooked on must be considered in the competition law analysis. For Example, the Microsoft case was about software. Meanwhile, the investigation on Google is of its online search engine. Platform operating system enables interaction between consumers who pay for the software and the software application writers. On online search engines, the consumers use the platform for free (in exchange for the data and their attention) and but on the other side, the advertisers (paying side of the online search) payor is monetised. This an important characteristic of online platforms for attracting advertisers as well as for enabling control features like switching costs, lock-in and ability to multi-home (Surblyte, 2015); CL analysis of these characteristics is important for the framework of the assessment of such concepts as 'essential facility' (Aaron S. Edlin & Robert G. Harris, 2013).

(b) Challenges to National and Regional Competition Law

Pricing algorithms had been quizzed by European Competition Authorities in addressing whether the use of price algorithms leads to excessive pricing in the airline industry (Austria) and whether the price algorithm used by taxi apps violated anti-trust (Luxemburg) (Hogan Lovells, 2018). The cartel activity today reveals algorithm aid collusion. Pricing algorithms widen the ambit of anti-competitive activities. The following are certain scenarios wherein

computers could facilitate the evolved method of price-collusion (Singh, Nidhi, 2018). Hence, CL infringements such as price-fixing are no longer made in meetings or closed-door but by computer programs, the new game-changer. Their rising power, plus the growing ubiquity of the Internet and increasingly sophisticated data-mining techniques, have driven a rapid shift of pricing decisions away from human decision-makers in favour of algorithms – defined as step-by-step procedures for solving problems, especially by a computer.³ Increasingly, the software programs that apply these algorithms – functioning as “robot-sellers” – can make pricing decisions autonomously.

Computer algorithms are used to facilitate information exchange by monitoring cartel activities. Illustratively, executives from rival firms would fix prices, allocate markets or bids, or reduce. The agreement would then be enforced and monitored through the algorithm. The algorithms are mere ‘intermediaries’ to the ‘per se’ illegality of the agreed-upon actions of the human agents (Singh, Nidhi, 2018). The computer algorithms are used as the central hub to coordinate competitors’ prices and other activities. The ‘hub’ here is the main players/or individual players, which coordinates all the activities of the other players, i.e. the ‘spokes’ either collectively or individually. Prof. Ezrachi argues that to show a single hub-and-spoke conspiracy, rather than multiple independent conspiracies, there must be a ‘rim’ of players aware of a conspiracy and have reason to believe that their benefits are contingent upon the overall success of the entire venture. Likewise, in an algorithm-fuelled hub-and-spoke model, computer algorithms execute the ‘hub’ function to facilitate collusion among the competitors. Today, algorithmic pricing has made players quick to react to market dynamics. In the online market, competitors usually do not interact directly. They all use the upstream suppliers’ pricing algorithm. Thus, many competitors operating on the same platform use a single algorithm, and the prices automatically align (Singh, Nidhi, 2018).

Algorithm enhanced conscious parallelism or Tacit Collusion. Whereby, Pricing algorithms used individually by firms respond to market dynamics and, in doing so, may become synced and predictable. No actual agreement takes place between the executives. Firms unilaterally operate through their pricing algorithms, which reach a similar common understanding that is not explicitly negotiated. However, each player is aware of such pricing algorithms by others. They, thus, facilitate tacit collusion or conscious parallelism. In such cases, it is difficult to get direct evidence but can be prosecuted premised on the anti-competitive intent of the firms. Both

circumstances are difficult to establish, given the complex nature of the algorithms used and the difficulty in identifying the human perpetrator (Singh, Nidhi,2018).

Artificial Intelligence (AI) induced competition can be deceptive; explained to Maurice E. Stucke in his book on Digital Competition, the enhanced ability of computers to process huge amounts of data at real-time speed could achieve a God-like or divine view of the market. This could amplify tacit collusion. Further, with experience, AI will be better placed to build even more sophisticated algorithms, which may, from the lens of the Digital Eye, give us a perfect image of virtual competition (Singh, Nidhi,2018).

To sum up, algorithmic consumers have limitations. Their digital butler can also enter into illegal agreements or abuse their market power, dominated by suppliers who may not have the consumer's interest at heart. The supply can take counter-measures on algorithmic consumers. Algorithmic consumers may not reach many markets if they don't behave according to the neoclassic passive consumer model (Gal & Elkin-Kpren, 2017; Singh, Nidhi,2018).

Furthermore, 'universal platforms' have acquired the most digital infrastructure data and ownership. For example, Facebook, Alphabet, Amazon and Apple have accumulated the most data, developed the most advanced analysis capabilities, and gained the greatest privilege of the foundational infrastructure, from mapping to cloud computing, that underpins all digital technology. Hence, these universal platforms can dominate artificial intelligence markets if not monitored. Dominance in data extraction and analysis means that the leading platforms are likely to develop the most advanced artificial intelligence (AI) technologies algorithmically by positioning them to dominate the application and development of new, potentially transformative products and services (Lawrence M and Laybourn-Langton L, 2018).

CASE STUDY: CHALLENGES TO ENFORCEMENT AND REGULATORS IN INDIA AND MALAYSIA

Tacit Collusion

In Messenger and Hub-and-spoke model, it is easy to establish an agreement. Still, under the other two scenarios- conscious parallelism and Artificial Intelligence- it isn't easy to establish

an agreement per se. Thus, it might be relevant for the competition authorities to look at the anti-competitive intent in such cases. Though the question that needs to be addressed is - Whether the use of similar algorithms to distort competition without the evidence of any illegal agreement be brought under the scanner of Competition law? Conscious parallelism behaviour by firms in the online market-leading to equilibrium prices above competitive levels does not attract anti-trust provisions. Thus, the main challenge before the competition authorities is to bring under its scanner such algorithm developers who program machines to unilaterally support tacit collusion. Competition agencies lack enforcement tools to do so. Such cases might be prosecuted under the banner of 'unfair trade practice'. As in this case, 'anti-competitive intent' is a strong ground for establishing a cartel-like activity; legislation to counter excessive transparency can do its bit when the competitors in the market abuse this transparency (Singh, Nidhi,2018).

Artificial Intelligence (AI)

The enforcement could be even more challenging in the case of AI. In the messenger, hub-and-spoke, and tacit collusion models, human agency, and intent are grounds for prosecution. However, in the case of AI, there is complete isolation of the 'human' element from algorithms making strategic decisions. With no express agreement, anti-competitive agreement, and human interference, what will the future be of the implications of Competition law on AI? The answer to that at the moment could be that nobody can be held liable and an adverse impact on 'consumer welfare' is the inevitable fallout of Artificial Intelligence (Singh, Nidhi,2018).

Search Bias

Behavioural economics literature identifies over one hundred human biases linked to decision making, information processing, memory, and social interaction. Companies could surely identify a few biases to better price discrimination online. An Algorithm-fuelled environment will provide firms with unparallel information about our desires, behaviour, interests, search patterns, and willingness and ability to pay. (Stucke & Ezrachi, 2016, p. 105)

Google's search engine is a good example of an algorithm based exclusionary conduct. Essentially it is a case of a two-sided platform wherein consumers (users) are not charged a price, and the revenue is essentially from advertisements. Due to the network effect, the larger the number of users on Google's search engine larger the number of advertisers who would

want to use the commercial unit on google search results. To stay in the competition, Google must ensure that its search algorithm delivers results that match or is at least close to what the surfer wants and, at the same time, match relevant ads with the search queries. In search engines' market, Horizontal and Vertical search results are organised. Horizontal search results are based on an algorithm that searches the entire web for results that would best match what the user is looking for. Vertical search engines provide more specific searches, and the results are derived from a smaller subset within the web-based on location, topic etc. Google has vertical search engines such as 'Google Shopping' and 'Google Travel'.

In *Matrimony.com v. Google*, [Case No. 7 & 30 of 2012 CCI (India)], it was alleged that Google is abusing its dominant position by creating a "search bias" in favour of its verticals (like Google Maps, YouTube, Google Finance etc.) thereby ranking low or eliminating competitors from the search results. Hence the important question in the case was to determine the "relevance" of the result, whether based on objective criteria or algorithm is a tool for differentiating competitors. However, the problem in determining the relevance is whether there can be a single definition of "relevance". This case projects a difficulty of enforcement of the Competition Law against such algorithm-based businesses, which essentially arises due to the confidential nature of its algorithm. One method of determining whether search bias exists could be to compare the other search engines; however, due to differences in the algorithm used by others, the same cannot be a conclusive method to impute contravention. Further, CCI was cautious in interfering with digital markets not to hamper the innovation.

CCI observed that "*...Google is the gateway of the internet for most internet users, due to its dominance in the online web search market, it is under an obligation to discharge its special responsibility.*" With this observation, the analysis of the search bias in the case was divided into three categories of specialised search results: (i) Universal Results; (ii) OneBoxes; (iii) Commercial Units. Universal Results are generic blue link results dealing with specific information such as news, images, local businesses, etc. OneBoxes deals with queries such as stock quotes, currency conversion, weather, etc., that are direct factual answers to users. Commercial units are results types that google sets apart in ad space and distinguishes search results with a "Sponsored" label. Since CCI has already cast a special obligation on Google to be fair in a market where it holds a dominant position, it became essential for google to disprove that the 'results are not based on relevance'. (*See also Wright, 2011*)

To discharge this imputed obligation, Google claimed that the frequent appearance of its vertical on the top of the results page is the consequence of the “objective” criteria of relevance adopted by Google, which makes the result more relevant for the users. In substantiating the argument, Google highlighted under constant pressure to provide the most relevant results. A consumer might shift to other competitors if the results are not appropriate. Thus, if consumers stay on Google, it means the results are relevant for them, and it is not Google that creates relevance; rather, users feel it is appropriate. According to Google relevance of developments in both the absolute and relative sense can be assessed. In the final sense, consumers would become aware if they feel dissatisfied with the results. In the comparative mind, if better search verticals exist, consumers would know about them through advertisements. Therefore, Google has constant pressure to provide relevant results to prevent users from shifting to competitors.

Rejecting this basis of argument, CCI held that users/consumers could not assess the relevance due to inherent difficulty in measuring relevance and branding effect. In cases of *OneBoxes*, where the search results are based on the facts, it may be possible to notice the deprivation of results; however same is difficult to verify in cases of Universal Results and Commercial Units. Further, Google's reputation has warranted the consumers' confidence in the search results over the years. It becomes more difficult for the consumer to detect the irrelevance of the search results. (See also Stucke & Ezrachi, 2016; Ratliff & Rubinfeld, 2014) Finally, the CCI found Google guilty of search bias due to the prominent placement of its own vertical, Google Flights. CCI conclude that “unfair diversion of traffic by Google may not allow third-party travel verticals to acquire sufficient volume of business” and that the consequence of Google's search design is “either pushing down or pushing out of the verticals who were trying to gain market access.” Further, Google publicly made claims that the ranking of results is according to relevance; however, its current search design would mislead the consumer as it gives preference to Google Flight regardless of significance.

However, Google has also faced antitrust inquiries in the US and EU on almost similar facts. In the US, the complaint that Google biased its search results to favour its services, the Federal Trade Commission (FTC) concluded that “Undoubtedly, Google took aggressive actions to gain an advantage over rival search providers. However, the FTC's mission is to protect competition, not individual competitors. The evidence did not demonstrate that Google's actions in this area stifled competition in violation of U.S. law” (FTC, 2013). Google settled

with the FTC, wherein it agreed to “give online advertisers more flexibility to simultaneously manage ad campaigns on Google’s AdWords platform and rival ad platforms; and to refrain from misappropriating online content from so-called “vertical” websites that focus on specific categories such as shopping or travel for use in its vertical offerings”.

Further, the FTC felt that Google’s ‘universal search’ and the changes to its search algorithms while potentially affecting other competitors “could be plausibly justified as innovations that improved Google’s product and the experience of its users”. The FTC has differentiated between competitors and competition and has underlined the importance of innovation to consumers while at the same time having offending acts removed through commitments by Google.

The EU Competition Commission officially announced its investigation into allegations of Google’s abuse of dominance in 2010. Among others, the commission focused on two probable cases of abuse – “lowering the ranking of unpaid search results of competing services” and lowering of “‘Quality Score’ for sponsored links of competing vertical search services”. Google offered certain commitments to address the concerns. These included displaying a label on the specialised link that “ (i) indicates to users where to find alternatives provided by Rival Links; (ii) display the Google Specialised Results Link in an area that is separate from Generic Search Results so that users do not confuse Google Specialised Results Links with Generic Search Results, and (iii) provide references to pertinent competing services by displaying three Rival Links that are presented in a manner to make users aware of these alternatives”. In response, Joaquín Alumina, the then Vice President of the European Commission responsible for Competition Policy, stated that the ‘commitments’ addressed the concerns adequately. Further, he also said, “The alternative of adversarial proceedings would take many years, with many uncertainties, and would not have the same immediate impact. It would also not necessarily deliver a better outcome for consumers given the specific characteristics of this market”.

Since there is no provision of a settlement order or commitment decisions in Indian Competition Law, CCI is bound to inquire and decide the matter. Hence, in India, along with the monetary penalty, to avoid the effect of anti-competitive conduct of any such search bias, CCI has directed behavioural remedies concerning the display of commercial units. Google was required to cease the conduct and display a disclaimer in the commercial flight unit box

indicating clearly that the “search flights” link placed at the bottom leads to Google’s Flights page and not the results aggregated by any other third-party service provider so that users are not misled by.

To remedy against search bias caused due to placement of Universal Results at fixed positions is concerned, CCI noted that since October 2010, Google had displayed such results on a free-floating basis and that is no longer subsisting. Accordingly, no remedy was required in the instant case. However, contravention for May 2009 to October 2010 was considered a monetary penalty.

RECOMMENDATIONS AND ALTERNATIVE POLICY OPTIONS

Consider whether it would be appropriate to regulate certain digital platforms to ensure open and fair access for all businesses to create a level playing field. A different set of rules might seek to build meaningful forms of accountability into the utilities’ operations. For instance, if the platforms’ algorithms are responsible for sensitive decisions (e.g. about finances, employment, health or legal issues), they could be required to be made available to regulators to ensure there is no bias (Lawrence and Laybourn-Langton, 2018). In certain cases, regulators could have the right to prohibit algorithms from making important decisions (UNCTAD,2019 Pg140)

In the case of Grab or Uber, a shift towards ‘smart regulation’ on the ‘digitised hands’, usage of the algorithm to decide the base price for ride-sharing is a better alternative to monitor their abusive activities. Uber defended by way of arguing that the demand-supply dynamics counter the surge pricing, and the algorithm determines when to implement a surge price, for which areas, for how long, and to what extent. To solve this problem, it is proposed that governments use Big Data and Data Analytics to set a market price effectively. This shall ensure a sense of belief amongst the consumers that the prices are as competitive and the pricing algorithms used by the government are equally reliable (Singh, Nidhi,2018). Since some services provided by digital platforms could be considered akin to utilities, they simulate an infrastructure of a public good nature. Therefore, the community, consumers and users begin to rely on them as essential facilities. Hence such digital platforms are necessary (or appropriate) to be regulated to ensure open and fair access for all businesses to create a level playing field and prevent the tendency

for (specifically these major platforms) to dominate the digital economy. Such regulatory control would be a more effective solution than addressing possible competition problems ex-post under competition law.

Furthermore, to operate in a country, digital platforms should be required to adhere to some ground regulations and pay a licence fee that could be used to fund the regulator (Lawrence, M & Langton, L.L, 2018). The first set of such rules recommended giving a greater emphasis to fair access and treatment, as the principle of common carriage in which digital platform utility could be required to remain open and provide fair access for other businesses or users. For example, Facebook is deemed to be providing a universal social networking platform and could be democratically accountable for rules about when and whether users could be barred from the service. A single private firm should not decide upon exclusion from a basic utility.

The dominant digital platform neutrality in the market can be ensured by applying the “essential facilities doctrine”. The incumbent would be required to provide a fair rate of access to other telecommunications operators. This could help prevent abuse of market dominance by platforms operating similar infrastructures, such as Apple’s App Store or Amazon’s marketplace while enabling the media to maintain their scale of operations (Khan, 2017).

A similar focus on access could include the principle of non-discrimination, which would require that a platform provide equal treatment to everyone using the platform. For instance, if Amazon were deemed a universal e-commerce platform, it would not be allowed to privilege its products (Amazon Basics) on its platform (Khan, 2018). Similarly, platforms would not be able to use algorithms to treat customers differently by charging different prices for the same service. A different set of rules might seek to build meaningful forms of accountability into the utilities’ operations. For instance, if the platforms’ algorithms are responsible for sensitive decisions (e.g., about finances, employment, health or legal issues), they could be required to be made available to regulators to ensure there is no bias (Lawrence and Laybourn-Langton, 2018).

In certain cases, regulators could have the right to regulate the algorithm's usage. Several similar proposals have been floated at national and regional levels by governments or competition authorities, mainly in developed countries. For example, the European Parliament has called upon the European Commission “to consider proposals aimed at unbundling search

engines from other commercial services”. In France, the National Digital Council has proposed prohibiting the discrimination of suppliers that is not justified by the quality of service, and for legitimate economic reasons, and the French Parliament has passed a law imposing an obligation of “platform fairness”.

The Australian Competition and Consumer Commission has proposed various regulatory measures, stating that “...the strong market position of digital platforms like Google and Facebook justifies a greater regulatory oversight.” Similarly, the 2019 report by the United Kingdom’s House of Lords compares online platforms to utilities because users feel they cannot do without them, or since they have limited choice, they accept their terms and conditions. It recommends special obligations to ensure that platforms act fairly towards users and other companies in the interest of society and that a dedicated regulator monitors these. In Mexico, for instance, the Federal Economic Competition Commission (COFECE) has published an advocacy paper to draw attention to the importance of the digital economy and its impact on competition policy (COFECE, 2018). The much-debated idea is to break up dominant digital platforms to reduce the concentration of power in the hands of a single platform. This subject has moved beyond those concerned with the issue of competition; it is also being debated in, for example, election campaigns in some countries, with candidates proposing that large technology companies be broken up to promote competition and safeguard small businesses. However, some authors have cautioned that breaking up or preventing digital platform monopolies may lead to worse outcomes and do little to improve competition (Mayer-Schönberger and Ramge, 2018) algorithms from making important decisions (UNCTAD, 2019)

CONCLUSION

The developing competition authorities, such as Malaysia and India still considered relatively new and small, with limited resources to tackle competition cases in an increasingly concentrated global economy. Therefore, more regulatory guidelines need to develop to set the game rules for digital businesses in their market platforms. This reduces the need for ex-post enforcement of competition law by authorities. Since e-commerce is growing, developing countries need appropriate e-commerce policies and guidelines to ensure local, especially their

micro, small and medium enterprises. The new entrepreneurs have equal open access to platforms under fair terms and conditions. And fairly enjoy the benefit of the digital economy from being dominated by only a few. Developing nations like Malaysia and India could also benefit from joining forces at the regional level through ASEAN -India regional trade and economic frameworks to ensure larger markets for local companies. E-commerce, competition, and consumer protection policies and regulations integration at the regional level are far more effective than at the national level when dealing with global digital companies' abusive practices, dominance, and killer merger activities. Regional cooperation among Asian nations can safeguard dominant platforms that remain open to local and regional companies under fair terms and conditions since most dominant digital players' marketplaces are global and act globally.

Therefore, regional level efforts would be more effective to commensurate the scale of impact of online platforms on economies. Regional frameworks could facilitate the exchange between more experienced competition agencies and younger ones. At the same time, international organisations, such as UNCTAD's Intergovernmental Group of Experts on Competition Law and Policy, and other institutions, could provide additional support (UNCTAD,2019). Algorithms override the competition law rules. Most importantly, must overcome the challenges of market assessment, pricing mechanism and digital cooperation to resolve the implications on the man on the street – the consumer is an important study to understand the real yin and yang of algorithm ruled digital economy to humanity.

REFERENCE

- Aaron S. Edlin & Robert G. Harris (2013), *“The Role of Switching Costs in Antitrust Analysis: A Comparison of Microsoft and Google.”*, YALE JOURNAL OF LAW AND TECHNOLOGY. Retrieved at: <https://digitalcommons.law.yale.edu/yjolt/vol15/iss2/4>
- Andrew Langford (2013), *“Monopoly: Does Search Bias Warrant Antitrust or Regulatory Intervention,”* 88 INDIANA LAW JOURNAL 1559.
- Ariel Ezrachi & Maurice E. Stucke (2016), *VIRTUAL COMPETITION: THE PROMISE AND PERILS OF THE ALGORITHM-DRIVEN ECONOMY* (Harvard University Press).

- Digital Competition Expert Panel (UK), *Unlocking Digital Competition* (March 2019) available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/785547/unlocking_digital_competition_furman_review_web.pdf
- Surblyte, Gintare (2015), “*Competition Law at the Crossroads in the Digital Economy: Is it All About Google?*” Vol. 4(1) EuCML pp. 170-178 (Max Planck Institute for Innovation & Competition Research Paper No. 15-13.) Available at SSRN: <https://ssrn.com/abstract=2701847>.
- Ezrachi, A. (2015), “*The Competitive Effects of Parity Clauses on Online Commerce*”, Oxford Legal Studies Research Paper No. 55/2015. Available at <https://ssrn.com/abstract=2672541>.
- Ezrachi, A. and M.E., Stucke (2020), “*Sustainable and Unchallenged Algorithmic Tacit Collusion*” 17(2) NORTHWESTERN JOURNAL OF TECHNOLOGY AND INTELLECTUAL PROPERTY (pp. 217 – 260).
- Geoffrey A. Manne & Joshua D. Wright (2013), “*Google and the Limits of Antitrust: The Case against the Case against Google*” 34 HARVARD JOURNAL OF LAW & PUBLIC POLICY 171 (2011).
- Ismail, Kaya (2018), “*AI vs. Algorithms: What's the Difference?*” CMS Wire. Retrieved at <https://www.cmswire.com/information-management/ai-vs-algorithms-whats-the-difference/>
- Jacques Cremer, Yves-Alexandre de Montjoye & Heike Schweitzer, (2019) “*Competition Policy for the digital era*”. Available at <http://ec.europa.eu/competition/publications/reports/kd0419345enn.pdf>
- James D. Ratliff & Daniel L Rubinfield (2014), “*Is there a Market for Organic Search Engine Results and can their Manipulation give rise to Antitrust Liability?*” 10(3) J. COMPETITION LAW & ECONOMICS 517.
- Joshua D. Wright (2013), “*Defining and Measuring Search Bias: Some Preliminary Evidence*”
- Lawrence M and Laybourn-Langton L (2018), “*The Digital Commonwealth: From private enclosure to collective benefit*” IPPR. The IPPR Commission on Economic Justice Report.

- Lee, Kenji (2018), “*Algorithmic Collusion & Its Implications for Competition Law and Policy*” Competition Policy International. Retrieved at SSRN: <https://ssrn.com/abstract=3213296> or <http://dx.doi.org/10.2139/ssrn.3213296>
- Lin, P. (2002), “*Competition policy in East Asia: the cases of Japan, People's Republic of China, and Hong Kong*” CAPS Working Paper Series No.133. Retrieved from Lingnan University website: <http://commons.ln.edu.hk/capswp/20>.
- Mays, Lisa (2015), “*The Consequences of Search Bias: How Application of the Essential Facilities Doctrine Remedies Google’s Unrestricted Monopoly on Search in the United States and Europe*” 83, GEORGE WASHINGTON REVIEW 721.
- Maurice E. Stucke & Ariel Ezrachi (2016), “*When competition Fails to Optimise Quality: A Look at Search Engines*”, 18 YALE JOURNAL OF LAW AND TECHNOLOGY 70.
- Ministry of Corporate Affairs, Report of the Competition Law Reform Committee Report (2020)
- Nowag, J. (2018), “*When Sharing Platforms Fix Sellers’ Prices*” (LundlawComp WP1/2018, Feb.) JOURNAL OF ANTITRUST ENFORCEMENT 1/2018.
- Picht, P.G. & Loderer, G.T (2018), “*Framing Algorithms – Competition Law and (Other) Regulatory Tools*” Max Planck Institute for Innovation & Competition Research Paper No. 18-24. Retrieved at <http://dx.doi.org/10.2139/ssrn.3275198>.
- Singh, Nidhi (2018), “*Virtual Competition: Challenges for Competition Policy in an algorithm-driven market*” KLUWER COMPETITION LAW BLOG. Retrieved at <http://competitionlawblog.kluwercompetitionlaw.com/2018/09/11/virtual-competition-challenges-competition-policy-algorithm-driven-market/>
- Surblyte, Gintare (2015) “*Competition Law at the Crossroads in the Digital Economy: Is it All About Google?*” EuCML, 2015, Vol. 4, issue 5, pp. 170-178; Max Planck Institute for Innovation & Competition Research Paper No. 15-13. Available at SSRN: <https://ssrn.com/abstract=2701847>.
- L Khan, (2017) “*Amazon’s antitrust paradox*” 126(3) THE YALE LAW JOURNAL 564.

- Utpal M. Dholakia (2015), “*The Perils of Algorithm-Based Marketing*” HARVARD BUSINESS REVIEW. Retrieved at <https://hbr.org/2015/06/the-perils-of-algorithm-based-marketing>
- We are Innovation (2015), “Market Roadmap: New Strategy, New Marketing” <https://weareinnovation.org/2015/07/06/market-roadmap-new-strategy-new-marketing/>
- Wright, Joshua D. (2011), “*Defining and Measuring Search Bias: Some Preliminary Evidence*” International Centre for Law & Economics, November 2011; George Mason Law & Economics Research Paper No. 12-14. Available at SSRN: <https://ssrn.com/abstract=2004649>

