INCORPORATING INTERDISCIPLINARY AI AGENTS FOR ANTITRUST COMPLIANCE IN DIGITAL MARKETS

Mayanaa G Reddy & Yana Cauvery VM, CHRIST (Deemed to be University), Bengaluru

ABSTRACT

The article centers around the issue of anti-competitive behavior in the growing digital economy of India, especially shedding light on the role and function of algorithms that enable market collusion and distortion. The Competition Commission of India (CCI) continues heavy reliance on traditional instruments of enforcement such as proof of express agreements to identify collusive practices. However, algorithms often engage in actions that result in collusive consequences even in the absence of human intervention which makes detection of such practices onerous thereby creating gaps in regulation.

In order to combat these hindrances, the article suggests a theoretical framework of "algorithmic auditors" or AI-auditors, that are interdisciplinary in nature devised to detect, monitor, and examine real-time behaviour of market agents. The auditors design a mechanism for regulation by integrating principles from Law, Economics, and Computer Science. The mechanism comprises components such as detection engines that utilize statistics and machine learning, systems for data collection, explainability modules capable of producing legally admissible evidence and frameworks for governance that secures accountability and transparency by market players.

Using a hypothetical case study, the paper tries to effectively demonstrate how in India's ride-hailing sector such algorithmic auditors can identify suspicious pricing patterns, simulate fictitious scenarios, and thereby help by generating insights for regulators. This model enables the improvement of regulatory responsiveness and efficiency by enabling a shift from ex-post enforcement to ex-ante monitoring.

This paper argues that although certain challenges persist like data privacy, institutional coordination, and intricate technical problems, algorithmic auditors act as a promising solution to the problems of anti-competitive behaviour caused by algorithmic opacity. The adoption of such a system can help by establishing a 'watchdog' to ensure effective regulation of India's digital market and can also help strike a balance between fostering innovation while maintaining fair competition thereby ensuring efficiency, transparency and consumer-centricity.

Introduction

The Indian digital and e-commerce market has undergone rapid and expansive growth due to the increased usage of digital services. In 2019, the digital economy underwent immense growth where it expanded 2.4 times faster[1] than the Indian economy itself. However, this has led to different market dynamics causing complex competition law issues.

A key feature of this digital transformation has been the increasing dependence on algorithms. Algorithms are a set of instructions that perform a specific task or solve a problem. They influence and determine almost every aspect ranging from personalised recommendations to setting prices. A rising issue is algorithmic collusion which occurs when algorithms coordinate their outcomes and cause harm to competition or consumer welfare. It can also occur unintentionally without any human intent by observing or responding to competitor's algorithms and converging towards higher prices. It is extremely unpredictable and hard to track and monitor because it interacts within complex environments making it difficult for regulators to detect and govern anti-competitive conduct.

This has brought about the need to re-evaluate the Indian competition law particularly with respect to how market power and control are exercised. In India, the primary framework to curb anticompetitive practices is administered by the Competition Act, 2002 under the Competition Commission of India (CCI). It is essentially aimed at preventing businesses with a higher market dominance from entering into anti-competitive agreements to avoid an appreciable, adverse effect on competition and the concentration of power in the hands of one business.

Section 3[2] is particularly significant because it focuses on prohibiting formal or even informal, unwritten, non-binding agreements that cause or are likely to cause an AAEC. Section 3(3) prohibits horizontal agreements i.e. agreements between enterprises or associations within enterprises operating at the same level of the supply chain. The law is concerned with those horizontal agreements between competitors who may engage in practices like price fixing, output restriction, bid-rigging, and market allocation. Such agreements are expected to have an appreciable adverse effect on competition. An important feature of this section is that it

[1] Shardul Amarchand Mangaldas & Co. (2023) 'Does India require ex-ante competition regulation in digital markets?', AMS Shardul Insights, 26 June.
[2] Competition Act, 2002 (India), No. 12, Acts of Parliament, 2003.

places the burden of proof on the accused emphasizing India's proactive stance against collusion. However, there is a traditional method of detection wherein a formal communication or agreement is required among competitors. In algorithmic collusion however, machine learning systems can converge without human communication which poses an issue because the law is triggered only when an agreement is established. Similarly, section 3(4) deals with vertical agreements i.e. agreements between enterprises at different levels of the supply chain. These arrangements may include tie-in arrangements, exclusive supply arrangements, resale price maintenance etc. However, unlike Section 3(3) wherein horizontal arrangements are presumed to cause an appreciable adverse effect on competition, vertical restraints are judged based on the rule of reason. In such cases, the CCI has to analyze the effect that the agreement has on competition and it does this based on the factors laid down under section 19(3). This section has a traditional scope because it was drafted before the emergence of digital markets. Therefore, it cannot be applied to the hub and spoke arrangement or algorithmic-driven collusion etc. This is because, this section evaluates each vertical arrangement separately and doesn't capture the collective horizontal effect that hub and spoke arrangements may have.

Along with this, Section 4 addresses the issue of abuse of dominance by an enterprise. It is stated that holding dominance is allowed, however, abusing it is illegal in nature. Dominance can be abused by the imposition of unfair conditions or prices, denial of market access etc. However, dominant digital platforms may use algorithms for self-preferencing, search bias, personalized pricing etc. which may be hard to prove because algorithms are opaque in nature. Furthermore, platforms also integrate retail services, payment provisions etc. into one algorithm making it harder to detect abuse of dominance.

The Organization for Economic Cooperation and Development (OECD) held a round table conference in June of 2023, where they examined the harmful effects of algorithms in the arena of antitrust. It further examined whether the current system of laws have been able to sufficiently address the anti-competitive practices of algorithms and suggests remedies to better investigate the issues posed by algorithms in the digital economy. The OECD explained how algorithms may either indulge in "co-ordinated" or "unilateral" practice. The former involves algorithmic collusion and the latter may involve "exclusionary and exploitative abuses".[3] Authorities face several challenges and seek to enhance their technical knowledge in

[3] Organisation for Economic Co-operation and Development (OECD), Algorithmic Competition, OECD, Jan.

order to be able to undertake extensive investigation and combat the anti-competitive tendencies of algorithms.

At the CCI's 10th national conference on the economics of competition law, the Chair of CCI stated the importance of finding an appropriate balance between innovation and competition—regulators and legislation that respond to antitrust concerns must not stifle innovation.[4]

The implementation of algorithmic auditors can lead to a balance between innovation and competition as it can detect collusion easily and this would empower the CCI as the problems of algorithmic collusion and exclusionary competitive practices can be curbed.

The notion of algorithmic auditors—independent or semi-autonomous AI agents employed for the continuous monitoring, detection, and evaluation of conduct in the digital market for compliance with competition law—has been in the spotlight for academic communities and regulators in this context. Regulatory frameworks incorporating computational models can expose patterns of anti-competitive harm that would be missed by a human regulator. Empirical studies on platforms such as Amazon demonstrate how algorithmic auditing frameworks could identify collusive, or discriminatory practices.

Algorithmic auditors go beyond mere monitors; they are a trifecta of computational intelligence, economic thought and legal expertise. By embedding auditing systems into market activity, regulators and businesses may be able to monitor algorithmic decision-making in real time. This could effectively terminate illegal conduct before it compromises competition and recoups regulatory capacity to the pace and complexity of algorithmic markets, moving regulation from reactive enforcement to proactive compliance.

This research examines the impact of algorithmic auditors coming to play a role in shaping, defining, and influencing future enforcement of antitrust law as the digital economy continues to develop. The aim is to conceptualize the possible integration of interdisciplinary AI agents within market systems to ensure compliance to antitrust law in real-time. The study will:

1. Outline the key elements of algorithmic auditors with due regard to their technological, financial, and legal ramifications.

22,2024,https://web.archive.org/web/20240122000000/https://oecd.org/daf/competition/algorithmic-competition.htm.

[4] Shruti Surya, Some Companies Using AI for Collusion: CCI Chief, INC42 (June 21, 2023)

2. Investigate how algorithmic auditors can take account of interdisciplinary integration while optimising both design and function - drawing from computer science, competition economics, and law.

3. Establish a potential model for operation with a focus on accountability, transparency, and regulatory flexibility, for real-time monitoring of market practices.

4. Illustrate and frame how such auditors might, in practice, operate, shaping our ideas around the practicalities of a possible integration, and communication in regulation, while hindsightfully outlining the potential opportunities and challenges in the Indian digital market context; a context where the Competition Commission of India (CCI) advised that algorithm regulation capacity limitations for CCI.

This research project is aspirational and conceptual. The paper also asserts that integrating AI auditors, in conjunction with algorithmic regulation and the capabilities of competition law - could be an essential step toward effective and future-proof antitrust law regulation.

Problem Statement

Limitations of CCI's Current Ex-Post Approach

In 2002, driven by modern economic thought, India came up with a contemporary competition law and this led to the creation of a "watchdog", the Competition Commission of India (CCI).

Before the CCI could make much progress, it was faced with complex cases such as that of Google in 2012. Google was alleged to have been "favouring its own players and services" and thereby creating an uneven playing field in the market. The CCI took action against Google's alleged manipulation of its search results to favour its vertical partners.[5] Numerous cases involving e-commerce, ride-hailing platforms and social media followed this. The CCI soon realized that it was not equipped to deal with these cases using ex-post tools. The company or firm usually got away with anti-competitive practices due to the long and slow investigations carried out by the CCI. Such investigations would meanwhile allow the firm to acquire a position so dominant that it was difficult to reverse (a phenomenon called "tipping").

[5] Competition Commission of India, 'Case Nos. 07 and 30 of 2012 (Google Matters)', Directorate General Investigation Report, CCI (2023). https://www.cci.gov.in/sites/default/files/07-30-2012Google-Matters.pdf.

In some cases, firms would escape liability because they were not "dominant" in the traditional sense and could not be held accountable for their actions under the law.[6] Furthermore, due to strong network effects, the digital markets usually "tip in favour of the large enterprises". The present framework of the CCI however, due to its ex-post approach involves a large number of proceedings and does not lead to quick redressal of such anti-competitive phenomena of large enterprises.[7] Matters are further complicated because of the odious process of indicating the position of digital players in the market, access to vast amounts of data and network effects. Thus, the position of the existing player in the market is further fortified.[8] Hence, the quick evolution of digital markets exposes the inadequacy of the present ex-post approach where the CCI is unable to step in within time to prevent irreversible harm.

Further, a report by the Committee on Digital Competition Law in 2024 revealed that both the ex-post and ex-ante frameworks share a mutually beneficial relationship with one another. While the ex-ante approach allows the regulators to set the "rules of the game", the regulator acts as the "umpire of the game", by way of the ex-post approach. Therefore, it is not viable to do away with the current ex-post framework but rather supplement the same with an ex-ante approach. Although some ex-ante measures implemented were said to have effects of over-regulation, it is contended that the advantages of this approach outweigh its drawbacks.[9]

How Algorithmic Decision-Making Bypasses Traditional Detection

Due to the expansion of the usage of algorithmic decision making in digital markets, there is a significant difficulty in detecting and regulating algorithmic collusion and other anti-competitive practices. This calls for an alteration in the current existing statutory frameworks to prevent hindrances in regulation and effective detection of such practices.

Algorithms due to their autonomous structure often collude within highly complex and interconnected systems to change pricing based on market data.[10] Due to their increased

[6] Ministry of Corporate Affairs, Report of the Committee on Digital Competition, Government of India, 2024.
[7] Ministry of Corporate Affairs, Report of the Committee on Digital Competition, Government of India, 2024, pp. 34, 36.
[8] 'Ex-Ante Measures to Regulate Competition in the Digital Markets: Analysing the Report of the Committee on Digital Competition Law, 2024', Manupatra, 2024.
[9] Ex-Ante Measures to Regulate Competition in the Digital Markets: Analysing the Report of the Committee on Digital Competition Law, MANUPATRA (2024), https://articles.manupatra.com/article-details/Ex-Ante-Measures-to-Regulate-Competition-in-the-Digital-Markets-Analysing-the-Report-of-the-Committee-on-Digital-Competition-Law-2024.
[10] OECD, "Algorithms and Collusion: Competition Policy in the Digital Age." DAF/COMP(2017)4, 2017.

complexity and unpremeditated nature, collusion is concealed making it harder to detect. Furthermore, traditional detection relies mainly on explicit human contracts or agreements which are often absent in algorithmic collusions. This leads to several new problems in the market structure that are manifested in the form of the following four scenarios:

Messenger

The messenger model of algorithmic collusion occurs when a single algorithm acts as an intermediary between competing firms and transmits signals and strategies to them. It helps by transmitting strategic or optimal information allowing them to align their conduct. This occurs when competing firms enter their market data into one common algorithm which then suggests various strategies based on the data inputted which firms follow. This leads to a parallel conduct forming between the two competitors in the absence of a direct cartel agreement among the companies resulting in higher prices, restricted outputs etc. Although, it is predictable, due to the current existing statutory language, an enforcement gap is created as it doesn't cover emergent algorithmic collusion. Firms continuously feed data into the algorithm which updates its recommendation and strategies to ensure real-time coordination.

Hub and Spoke Arrangement

Sometimes, market participants do not engage in overt agreements but rather communicate in complex ways leading to collusion. The Hub and Spoke arrangement is such a case wherein the 'hub', a firm at a "different level of the supply chain" conspires with the 'spokes' or other competitors through agreements. With the advent of algorithms, the traditional understanding of Hub and Spoke has evolved. Now, the 'hub' does not have to be a part of the supply chain but may also be a third-party facilitator or the developer of the algorithm.[11] In such a problem, online platforms (hubs) make and impose uniform rules and policies on independent sellers (spokes). This creates an arrangement among them without direct inter-seller communication. Although section 3(4) deals with vertical arrangements, it does not take into account hybrid arrangements like the hub and spoke agreement which appear vertical in nature but in reality are horizontal.

[11] Shambhavi Jha & Simran Nagra, An Analysis of Algorithmic Collusion Under Indian Competition Law: Comparative Study with EU and US, 5 JUS CORPUS L.J. 23 (Dec. 2024), https://www.juscorpus.com/wp-content/uploads/2025/01/3.-Shambhavi-Jha.pdf.

Predictable Agent Scenario

Under this form of collusion, a machine is designed unilaterally in such a way that it produces predictable outcomes and responds in a particular way to changes in the market. It is very difficult to find sufficient evidence of vertical or horizontal agreements in this case. The market participants are aware of the developments of machines of other competitors and thus, there might be adoption of similar algorithms by all actors in the industry leading to actions of interdependence leading to anti-competitive outcomes. [12]

Digital Eye

In this situation, the algorithm is a "black box", a model that is "automatic and autonomous" and engages in "self-learning" in order to coordinate prices in the market. It can process data in a quick manner and produces outputs without exposing its internal process thereby earning the name "black box". This exacerbates the issue of detection as the internal functioning and decision making processes are often opaque, undeterminable and unknown to regulators. Hence, these algorithms lead to collusion among firms without their intent or knowledge. The Indian competition law demands evidence of either intent or agreement of anti-competitive contracts which the CCI often cannot obtain due to companies invoking trade secret protections or claiming that due to the complexity of the algorithm, thorough analysis is prevented. The digital eye leads to a situation of conflict between the intention of humans and the working of the algorithms.[13]

Since Indian competition law is heavily reliant on documentary and oral evidence, the digital traces left behind in the form of code and transaction logs are unaccounted for.[14] The lack of expertise in the realm of digital forensic analysts exacerbates this especially in cases where there are confidentiality or non-disclosure agreements because they limit access to essential algorithmic details. Further, assigning legal responsibility in cases of unintentional algorithmic collusion is not determined and Indian statutes lack clear guidance on how liability must be distributed among developers, platform operators etc.

---

[12] Ariel Ezrachi & Maurice E. Stucke, Artificial Intelligence & Collusion: When Computers Inhibit Competition, 2017 U. ILL. L. REV. 1775, 1775-1810, https://illinoislawreview.org/wp-content/uploads/2017/10/Ezrachi-Stucke.pdf (last visited Aug. 22, 2025).

[13] Maria Giacalone, Algorithmic Collusion: Corporate Accountability and the Application of Art. 101 TFEU, 9 Eur. Papers 1048 (2024), https://doi.org/10.15166/2499-8249/798.

[14] Ezrachi, A. & Stucke, M.E. "Artificial Intelligence & Collusion: When Computers Inhibit Competition." University of Illinois Law Review, 2017, pp. 1775–1810.
(Messenger, Predictable Agent, Digital Eye models, black box issues.)

Due to the overlap of various sectors in relation to algorithmic applications, judicial challenges arise. There are various overlapping authorities like the CCI along with sector-specific regulators like RBI for fintech and data protection authorities. They operate in an uncoordinated manner creating regulatory gaps leading to structural hurdles in inter-agency cooperation.[15]

Large platforms have major control over user data and they can misuse these and design algorithms and shape them to look like ordinary business strategies which tend to be data driven and based on individuals, and hence do not produce clear or uniform patterns that regulators traditionally use to detect collusion. Further, the harms caused by these algorithms may be subtle and masked or spread over a lot of transactions making it difficult for the CCI to isolate those instances as exclusionary practices.

Due to the importance given to defining a relevant market in Indian competition law, the CCI faces a hurdle in detecting and defining such a market due to the integration of diverse functions like payments, retails, logistics etc. into a seamless ecosystem. Due to this blending, it's harder to ascertain and categorize what a platform focuses on due to convergence of different functions into one specific platform.[16]

Due to India's cultural and linguistic diversity and differing digital literacy, algorithmic biases may enter, leading to discrimination in the market which creates segments based on demographic factors which may result in price discrimination or exclusionary practices. This may appear as normal market differentiation and can escape CCI's scrutiny. Due to the absence of culturally sensitive oversight, the market biases may often go undiscovered.

Conceptual Framework of Algorithmic Auditors

Definition and Concepts

Algorithmic auditors are AI-driven tools that are integrated into platform algorithms like pricing, ranking, recommendation, ad auctions and are dedicated to continuously detecting,

[15] Committee on Digital Competition Law, "Report on Digital Competition Law (India)." Ministry of Corporate Affairs, Government of India, March 2024.
(Market definition challenges, agency overlap, structural hurdles.)

[16] Gupta, S. & Udgata, S., "Rethinking the Contours of Competition Law: The AI Perspective." Indian Competition Law Review, vol. 6, pp. 87–103, 2020. (Algorithmic collusion challenges, enforcement gaps, and digital evidence issues.)

assessing and monitoring prospective antitrust threats. Their main aim is to ensure that algorithms comply with relevant regulatory requirements and operate fairly. Their objective is to transform law enforcement in digital markets from ex-post investigation to a more proactive monitoring approach.

The core components of algorithmic auditors include a data collection layer, a detection engine, explainability and evidence module and a governance layer. The data collection layer's main focus is to collect real-time market data like prices, bids, ranking, promotions and user interactions through an Application Programming Interface (API) which with the help of cryptographic methods will help secure the data ensuring integrity and auditability. The detection engine will analyse this data to check for potential collusive patterns using statistical means, machine learning models and simple checks based on legal standards. The explainability and evidence module generates explanations alongside supporting evidence of any flagged behaviour in market patterns, providing clear narratives that are actionable and reliable.

The governance layer, by ensuring transparency and accountability organises the entire auditing process starting from collection of data to documentation procedures. Further, it examines the documents and recommends interventions or improvements to reduce harm and thereby assures algorithmic reliability. It also enables stakeholder engagement by providing channels for those who are affected to seek redressal and reform.

Interdisciplinary Integration (law, economics, computer science)

The AI agents will be interdisciplinary in the sense that they cannot be created solely by lawmakers or economists. The "watchdogs" will require the integration of three areas- Law, Economics and Computer Science. These three disciplines are crucial for the detection of anti-competitive practices in the digital market.

In the legal realm, Section 3(3) prohibits horizontal agreements between firms or companies at the same level in the market or selling similar products and under Section 3(4), tie-ins, Resale Price Maintenance and Exclusive Distribution Agreements that are anti-competitive are also prohibited.[17] Thus, such violations or prohibitions should be detected as "observable

[17] India, Competition Act, No. 12 of 2003, §§ 1–66 (2003),

signals" by the AI auditors. For instance, in the case of self-preferencing tactics, the auditor will have to examine whether the platform's ranking algorithm has been favourable towards its own products over a rival product that is rated the same. Further, since the law calls for transparency, verifiable facts and evidence, the auditors will have to provide the same information in formats acceptable by courts such as logs, tables and explanation of decisions. Therefore, compliance with the law can be established in such a way where the regulators and firms can defend themselves.

The auditors must also be integrated with the discipline of Economics. This is essential because the Competition law also takes into account at its core the welfare of its consumers. Anti-competitive practices are said to be harmful as they stifle competition in the market leading to reduced product quality and innovation which ultimately adversely impacts the consumers. Concentration in the market has become one of the major issues in the digital economy where large enterprises dominate a particular market. Economics uses a number of tools such as the Hirfindahl-Hirschman Index and network effects to measure market concentration. The AI auditors can be embedded with such tools. To elaborate, in case of predation by a firm, the auditor can detect if the firm's prices are below average variable cost. Further, if two firms are setting similar prices, the auditor will not stop after detecting correlation between them. The economic tools embedded in them will question whether the firms are setting high prices to reduce the choices available with consumers. Integration of economics with AI auditors is important to identify cases that can induce real harm to competition.

Finally, Computer Science can be utilized to create AI tools. These scientists have designed ways to secure vast amounts of data including discounts, prices, rankings etc. The auditors can be integrated with explainable AI and machine learning. The former will ensure that the auditors provide reasons for anomalies such as price hikes across a number of firms. The auditor may provide an indication that can be read by humans along the lines of "Price rise across firms, not explained by cost changes". Further with machine learning, collusive behaviour can also be detected. Computer Science can also help in creating auditors that can create "what if" scenarios. With such scenarios, the auditors can observe how algorithms react to situations.

https://www.cci.gov.in/sites/default/files/The_Competition_Act_2002.pdf.

Operational Model for Real-Time Monitoring

The operational model for monitoring by AI Auditors will involve the following steps:

Secure and comprehensive data acquisition: The AI Auditors will be equipped with the ability to secure data from multiple sources. Such market data will include prices, rankings, bids, promotions etc. as well as user behaviour, logs of transactions, and performance metrics. The auditors will acquire data from various sources with the aid of API's scheduled crawlers and streaming feed. Furthermore, the auditors will ensure integrity of data by utilising cryptographic techniques in order to ensure that data cannot be modified without being noticed. Compliance with privacy regulations will also be guaranteed by the AI agents in order to protect sensitive data.

Rigorous Data Preprocessing and Feature Engineering: The AI agents will be equipped to detect inconsistencies and anomalies in the secure data. It will also synchronise formats and scales of data across various sources to ensure that they can be compared.

Multimodal detection: The AI watchdogs will be able to detect anticompetitive activities through multiple models in the digital markets. For instance, in the case of tacit collusion any cases of unusual price synchronization that cannot be explained shall be identified by the auditors. In cases involving self preferencing, the auditors can scrutinise whether the stock keeping units of platforms under investigation have been enjoying unexplained favourability. The computer science tools integrated in these auditors can maintain checks on exclusionary pricing tactics undertaken by large enterprises.

Probing and counterfactuals: by providing "what-if?" situations or simulation scenarios, the auditors will be able to ascertain how algorithms react to changes or inputs in the digital market. This provides information relating to how sensitive algorithms are under different circumstances. For instance, if a rival firm lowers its price, would a particular business algorithm lower its price to the same extent, remain oblivious to such a change or respond to it in an anti-competitive manner. Such simulations provide important insights to regulators about an algorithm's behaviour i.e. whether it is programmed to behave in a certain way or has adopted such unlawful practices. Moreover, the issue of opacity of algorithms can be evaded with the help of simulated scenarios where the algorithm is treated like a "mystery box" and inputs such as price changes are entered into it. The regulator can then observe the output

provided by the algorithm in the simulation situation to ascertain how the algorithm will react. The regulators can in such a way understand the internal working of the algorithm.

Explainable alerts and escalation: when the auditors detect breaches of competition law with the help of explainable AI it will issue a report involving the facts, methods, evidence and legalities. This report can be used by regulators to carry out investigations involving firms engaging in anti-competitive practices.

Redress and Challenge mechanism: upon issuance of such reports by the auditors, the regulators can establish a platform where stakeholders can contest the findings of the investigation or apply for re-evaluation. The regulators may also incorporate feedback from these investigations in order to further improve detection by the AI models.

Hypothetical Case Study

India's ride-hailing industry has seen the rapid growth of two major platforms- Ola and Uber. These 2 platforms have dominated the industry with the use of complex algorithms setting prices, managing driver rankings and allocating rides to consumers. Although these algorithms have helped the platforms improve efficiency, regulators have suspected that they may be used to

engage in anti-competitive practices thereby harming consumers. The regulators have raised concerns about tacit collusion where competitors synchronise practices even without an express agreement or may sometimes indulge in self-preferencing tactics favouring particular drivers or service providers.

AI auditors can help address these concerns in the following ways:

The AI auditor will first secure and collect data from the ride hailing platforms using APIs. Such data will include information relating to prices of rides in different times and locations, promotional offers and advertisements, transaction logs, and records of rides allocated to drivers. Further, this data will be secured through cryptographic techniques in order to maintain reliability.

The data so collected from various platforms and sources vary in their formats, in such a case the AI auditors will standardise and harmonise them and also identify any inconsistencies and

correct them. From the data processed, anomalies or unusual behaviour that could indicate anti-competitive practices will be highlighted. For instance, the auditor may take into account simultaneous price hikes, abrupt changes in the ratings by customers, or changes in allocation of drivers.

The AI auditors may employ various techniques of detection. Through the use of machine learning, the auditors can use historical data to ascertain patterns of pricing and assignment that are normal as opposed to those which could indicate collusion. The auditors may also apply rule-based techniques by checking whether legislations defining anti-competitive practices could be applied to check if similar patterns exist in the present scenario.

The AI agents could also create "what-if" scenarios in order to determine how the platform's algorithms would react to different circumstances. For example, the auditor may simulate one platform charging lower prices and then observe the algorithm's reaction to such a change in price. The auditor may then observe that the algorithm of the rival platform will increase prices to extinguish competition. These simulated scenarios, provide insights relating to the reactions of algorithms in alternative circumstances which regulators cannot derive from public data.

Based on the data processed, and the anomalies detected, the AI auditors will generate comprehensive reports including facts, application of laws and evidence of anti-competitive behaviour. This will enable regulators such as the CCI to carry out speedy investigations and restore the firms to their original positions in the market.

Conclusion

The existing legal competition law mechanisms are built for a pre-digital era and thus struggle to address the problems caused by the constantly transforming and evolving digital market place. Algorithmic auditors as conceptualised in this paper aim at offering a promising solution by enabling regulators to move from an ex-post to a more proactive monitoring system. By using a system of interdisciplinary workings from the law, economic and computer science fields, the auditors can detect extremely subtle anti-disciplinary practices as well. Although their implementation will not be easy and a significant number of technical or organizational challenges may be faced, the benefits of it will outweigh the costs. It will lead to an anti-competitive free market manifesting a balance between innovation in the digital market along with ensuring that it's fair, just and equitable in nature.