

PLAY OR PREY: THE UNSEEN ANTI-COMPETITIVE EFFECTS AND INFLUENCE OF DATA ANALYTICS IN ONLINE GAMING

Abstract

Around 4.8 billion users on social media spend an average of 2.5 hours online, be it consuming news, doing business, socialising, or ordering food. Online gaming is not far behind and has become a major source of entertainment for a digitally active world. Parallely, data analytics has become a tool for the industry due to the competitive edge, growth, and development it fosters. However, the role of data analytics in this industry raises a myriad of challenges in the realm of competition law, ranging from traditional competition concerns, such as price discrimination, to consumer protection-competition concerns, such as privacy concerns of AI-based games. This underscores a need to take proactive steps against anti-competitive behaviour and ensure the protection of consumers by upholding fair market conditions.

The authors commence this paper by examining the current landscape of the online gaming and data analytics industry and the transformative influence of its incorporation into the realm of online gaming. Further, this paper scrutinizes the anti-competitive ramifications of Big Data analysis, focusing on the dual aspect of the data analytics receiver, i.e., gaming companies and the data analytics service provider, by employing a primary study on Lognormal Analytics Hyderabad, a data service provider. The discussion goes beyond existing literature and extends to the convergence of consumer protection and anti-trust, delineating the adverse effects of gaming entities employing AI-based non-player character profiles, fostering addictive games, and implementing price discrimination algorithms on consumers. In conclusion, this paper proposes immediate strategic measures to act as deterrents against anti-competitive practices by such data analytics receivers particularly online gaming companies domestically. This paper also emphasizes fortifying the role of the Competition Commission of India (CCI) to mitigate the impact of such practices.

Keywords: Competition Law, Consumer Protection, Data, Online Gaming Companies, Data Analytics

INTRODUCTION

In India, foreign direct investments of more than Rs. 20,000 crores have been received by more than 500 gaming start-ups and are expected to increase to Rs. 50,000 crores by the financial year 2025.¹ The online gaming market in India encompasses real-money games, casual games, and esports, engaging nearly 433 million internet users.² The penetration of smartphones and high-speed 4G internet in India has been a major reason for the increase in online gaming in India.³ Beyond the luck factor in winning ‘Online Ludo Nights’ with friends and family, there is a substantial amount of data processing involved behind the curtains that contributes significantly to online gameplay.⁴ This underscores why we are seeing a shift of focus in regulating online games. For instance, in April 2023, an amendment to the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021⁵ was introduced to explicitly include online games within its purview.⁶ This marked an initial effort towards a central regulation in this domain.

On the company’s front, however, the rising popularity of online games naturally prompts a desire to enhance consumer experience as well as increase monetisation. This inclination towards improving customer satisfaction is where Data plays a pivotal role. Utilising analytics enables companies to discern the preferences and desires of customers, facilitating the refinement of services to better meet consumer expectations which explains why 52% of the companies worldwide leverage this tool.⁷ The *Walmart Inc.*⁸ case study serves as a perfect

¹ Kamalika Ghosh, ‘The Online Gaming Regulation Conundrum: Who Will Regulate The Sector?’ *Outlook* (26 September 2022) <<https://www.outlookindia.com/business/the-online-gaming-regulation-conundrum-who-will-regulate-the-sector--news-223965>> accessed 20 December 2023.

² Ram Narayan Murthy, ‘Gamers Nation. India – a nation of gamers’ *The Hindu* (9 June 2022) <<https://www.thehindubusinessline.com/data-stories/data-focus/india-proves-to-be-a-nation-of-gamers-as-numbers-spike/article65482841.ece>> accessed 31 December 2023.

³ Gunnidhi Singh Sareen, ‘Why is the online gaming industry booming in India?’ *The Times of India* (2 June 2022) <<https://timesofindia.indiatimes.com/blogs/voices/why-is-the-online-gaming-industry-booming-in-india/>> accessed 25 December 2023.

⁴ Leo Craig, ‘Online gaming: what are the data demands?’ *Techerati* (4 June 2018) <<https://www.techerati.com/the-stack-archive/data-centre/2018/06/04/online-gaming-data-demands/>> accessed 25 December 2023.

⁵ The Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules 2021.

⁶ Ministry of Electronics and Information Technology Press Release, ‘Government Notifies Amendments to the Information Technology (Intermediary Guidelines and Digital Media Ethics code) rules, 2021 for an Open, Safe & Trusted and Accountable Internet’ (6 April 2023) <<https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1914358#:~:text=The%20amended%20rules%20now%20also,Unit%20of%20the%20Central%20Government>> accessed 27 December 2023.

⁷ Finances Online, ‘70 Relevant Analytics Statistics: 2024 Market Share Analysis & Data’ <<https://financesonline.com/relevant-analytics-statistics/>> accessed 1 January 2024.

⁸ Manpreet Singh and others, ‘Walmart’s Sales Data Analysis- A Big Data Analytics Perspective’ (4th Asia-Pacific World Congress on Computer Science and Engineering, 2017) <https://www.researchgate.net/publication/328246040_Walmart%27s_Sales_Data_Analysis_-_A_Big_Data_Analytics_Perspective> accessed 2 January 2024.

example of how consumer data and its analysis can be useful, as who would have predicted and anticipated that there is a connection between a hurricane and the consumption of strawberry pop-tarts? The “Marvel” increases as we are now seeing online gaming companies like Farmville and Minecraft leveraging data analytics to create their own worlds through metaverses to give their customers the ultimate real-life experience virtually.⁹

The Lok Sabha’s 53rd Report on ‘Anti-competitive Practices by Big Tech Companies’¹⁰ makes it evident that it is essential to analyze both sides of the coin and bring to light the anti-competitive practices employed by companies dealing with data analytics. While there are a plethora of studies on the nexus between Big Data and Competition law,¹¹ a question that remains to be answered is whether ‘data analytics’ as an input or service in nexus with competition law produces the same conclusions. The authors, through this paper, restrict their scope to the online gaming industry and believe that there is no better way to assess this nexus than examining an industry that engages persons from almost all walks of life, whether it’s a good old game of online poker or an online educational game for a child.

HOW DATA ANALYTICS HAS REVOLUTIONISED THE ONLINE GAMING LANDSCAPE

Data is now being compared with currency¹² and is popularly known as the new ‘oil’.¹³ The term ‘Big Data’ was first introduced by John Mashey in the mid-1990s.¹⁴ It refers to the management and analysis of extensive datasets and, in recent times, captures vast amounts of dynamic records of how individuals behave in nearly all aspects of life.¹⁵ The undeniable power of Big Data for Organisations can only be realized via technological analytics and alterations

⁹ Ayşe Gizem Yaşar, ‘Gaming without Frontiers: Copyright and Competition in the Changing Video Game Sector’ (2023) CREATE Research Paper 2023/10 <<https://eprints.gla.ac.uk/307648/2/307648.pdf>> accessed 1 January 2024.

¹⁰ *Report of the Seventeenth Lok Sabha Standing Committee on Finance on Anti-Competitive Practices by Big Tech Companies* (22 December 2022).

¹¹ OECD, ‘Big data: Bringing competition policy to the digital era’ (November 2016) <<https://www.oecd.org/competition/big-data-bringing-competition-policy-to-the-digital-era.htm>> accessed 5 January 2024; Alptekin Koksall, *Big Data and Competition Law Market Power Assessment in the Data-Driven Economy* (1 Taylor & Francis 2023).

¹² Edward Wyatt, ‘Edith Ramirez Is Raising the F.T.C.’s Voice’ *The New York Times* (21 December 2014) <<https://www.nytimes.com/2014/12/22/business/federal-trade-commission-raises-its-voice-under-its-soft-spoken-chairwoman.html>> accessed 1 January 2024.

¹³ ‘The world’s most valuable resource is no longer oil, but data’ *The Economist* <<https://www.economist.com/leaders/2017/05/06/the-worlds-most-valuable-resource-is-no-longer-oil-but-data>> accessed 25 December 2023.

¹⁴ Rob Kitchin and Gavin McArdle, ‘What makes Big Data, Big Data? Exploring the ontological characteristics of 26 datasets’ (2016) 3(1) *Big Data & Society* 1.

¹⁵ OECD, ‘Algorithms and collusion’ <<https://www.oecd.org/competition/algorithms-and-collusion.htm>> accessed 15 December 2023.

in the way Data is being processed. The online gaming industry is not an exception; popular freemium games such as Clash of Clans and Clash Royale by Supercell, generated revenues of CAD 2 billion in 2017 without introducing any new game.¹⁶ This proves that beyond being a mere adopter of data-driven ideologies, the gaming industry has emerged as a pioneer by wielding the potential of data analytics to usher innovative processes and creative modes of operation into its fundamental processes,¹⁷ such as the following.

Opportunity to venture into untapped markets: Lower costs and better game designs

Gaming Companies can use data analytics to venture into previously untapped markets by creating new games at lower costs and enhancing existing game designs. This can be done through a nuanced understanding of consumer preferences, the development of metaverse-like experiences tailored to specific geographical regions, and a comprehensive analysis of game performance across different devices used by the players. For Example, King Digital Entertainment, the game designer of its most popular game, Candy Crush Saga, identified that users were disengaging significantly at level 65, posing a substantial concern for a game boasting 725 levels. It used data analytics, which revealed that a specific gaming element hindered users from progressing beyond level 65. Identifying this as an 'NP-hard problem' from computational complexity theory, the development team promptly addressed the issue by eliminating the problematic element.¹⁸ This helped the Company easily resolve user retention challenges and exemplified the pivotal role of data analytics in addressing unforeseen issues within the gaming industry.

More recently, in March 2023, even Ubisoft announced the implementation of an in-house Artificial Intelligence (AI) Non-Player Character (NPC) dialogue solution designed to provide players with personalized interactions rooted in in-game decision-making.¹⁹ This proprietary system involves an analysis of players, establishing correlations between gameplay data—such as the ability to execute repetitive tasks, user inputs, and time spent in-game—and personality attributes. The integration of player data into algorithms serves to evaluate user attributes,

¹⁶ Game Beat, 'Supercell 2017 results: \$810 million in profit, \$2 billion in revenue — without a new game' <<https://venturebeat.com/games/supercell-2017-results-810-million-in-profit-2-billion-in-revenue-without-a-new-game/>> accessed 17 December 2023.

¹⁷ O. Sotamaa and others, 'Even if the algorithm is a terrible workmate, you just need to learn to live with it: Perceptions of data analytics among game industry professionals'(2023) EJCS.

¹⁸ Tech Target, 'Customer analysis a winning play for 'Candy Crush Saga' maker' <<https://www.techtarget.com/searchbusinessanalytics/feature/Customer-analysis-a-winning-play-for-Candy-Crush-Saga-maker>> accessed 19 December 2023.

¹⁹ Roxane Barth, 'The Convergence of AI and Creativity: Introducing Ghostwriter' *Ubisoft* (22 March 2023) <<https://news.ubisoft.com/en-us/article/7Cm07zbBGy4Xm6WgYi25d/the-convergence-of-ai-and-creativity-introducing-ghostwriter>> accessed 3 January 2024.

potentially opening avenues for increased monetization and targeted advertising opportunities on an individual player level. This development underscores the intersection of AI, player engagement, and commercial considerations within the gaming industry, prompting legal considerations surrounding user data privacy, consent, and the evolving landscape of personalized gaming experiences.

Integration of newer tools and technologies

Big Data and analytics have also revolutionized the gaming industry by integrating AI-Powered tools to scrutinize player data, in-game behaviour, and communications to reduce the negative impacts of cheating in online multiplayer games, thereby curbing losses in gameplay and revenue.²⁰ Half-Life and DOTA's gaming powerhouse Valve Software's use of deep learning to combat fraud and identify cheaters is a noteworthy example. By collecting and analysing specific user data, encompassing team preferences, behavioural shifts during gameplay, kill patterns, and mortality statistics, Valve calibrated game balance. This approach ensured a fair and enjoyable gaming experience, where no specific team holds an undue advantage, aligning with the fundamental principles of game design.²¹ Thus, proving that leveraging Data not only enhances the integrity of online gaming but also sets a precedent for maintaining fairness and balance within the gaming ecosystem.

Even within the framework of data analytics, companies have now progressed to incorporate advanced forms of analytics for efficiency and competitive advantage, such as Analytics 2.0.²² It consists of the principles of attribution, optimization, and allocation. Attribution is the process of quantification of every element to be analysed, optimization is done by utilizing predictive analytics tools for better preparedness by running scenarios for business planning, and allocation implies the distribution of resources in real-time as per the optimization scenarios.²³

Efficiency in Business Operations and Improved Marketing

In addition to helping developers create better games, Big Data analysis is also changing how businesses operate within the gaming industry. It tracks player spending, aids in understanding which in-game items are most popular and determines which marketing strategies are most

²⁰ Taylor Wessing, 'AI, Data and Gaming' *Lexology* (1 August 2023) <<https://www.lexology.com/library/detail.aspx?g=d7176e5e-43cf-4bff-85a6-f786afa93caa>> accessed 25 December 2023.

²¹ Digital Data Design Institute at Harvard, <<https://d3.harvard.edu/platform-rctom/submission/valve-using-machine-learning-and-deep-learning-to-catch-cheaters-on-csgo-794-words/>> accessed 18 December 2023.

²² Hsinchun Chen, Roger Chiang and others, 'Business Intelligence and Analytics: From Big Data to Big Impact' (2012) 36 Management Information Systems Research Centre, University of Minnesota.

²³ Wes Nichols, 'Advertising Analytics 2.0' *Harvard Business Review* (March 2013) <<https://hbr.org/2013/03/advertising-analytics-20>> accessed 18 December 2023.

effective.²⁴ This information is then used to make more informed decisions about how to run an online gaming business. Major online gaming companies such as ‘Electronic Arts’ are known for highly relying on data-driven decision-making and using data analytics for business operations.²⁵

Big data analysis aids developers to market their games more effectively. By understanding who a potential player is, who existing players are, and what they like, developers can create targeted marketing campaigns that are more likely to result in sales.²⁶ Big data analysis is also changing how marketing is done in the gaming industry. In the past, it wasn’t easy to target specific demographics with advertising. However, online gaming companies target their advertising more effectively through analysis, which will enable them to reach a wider audience and attain their objectives.

Increased Monetization

Gaming companies have effectively utilized data analytics to enhance their monetization strategies by gaining insights into the preferences and interests of their user base. Zynga serves as a noteworthy example where they initially offered ‘freemium premium service’ i.e., free gameplay while providing a premium, ad-free account. However, only 2% of players, vouched for the paid option. Through the implementation of data analytics, Zynga successfully identified ways to significantly increase paid memberships. The early version of Farmville, Zinga’s popular game made animals a central feature in its subsequent game version and even to the extent of introducing ‘rare species’ owing to users' engagement with virtual animals as some users were even willing to purchase these animals with real money.²⁷

Personalisation and enhanced user experience for gamers

By utilizing game data, the overall public image, and credibility of online gaming companies are strengthened as Data helps them to craft more personalized interfaces and gaming environments, such as refining gaming avatars and making use of creative marketing strategies. Such data collection also enables the potential tracking of diverse human behaviour to garner insights from games, including information sourced from advertising partners, and third parties

²⁴ David Court and others, *Big Data, Analytics, and the Future of Marketing & Sales* (McKinsey&Company 2015) 34-35.

²⁵ Electronic Arts, ‘Data Analytics at Electronic Arts’ <<https://www.ea.com/en-ca/news/data-analytics-at-ea>> accessed 7 January 2024.

²⁶ Gabe Zichermann and Joselin Linder, *Game-based marketing: inspire customer loyalty through rewards, challenges, and contests* (John Wiley & Sons 2010).

²⁷ Chananagari Prabhakar Rohit Reddy and Buchi Avinash, ‘Data Analytics to Enhance Game Development’ (12 December 2019) 8(12) IJERT 500, 500.

and data gathered from various facets, such as infrastructure, development processes, marketing, and user research.²⁸

This data-driven approach not only yields a high return on investment for gaming companies but also resonates with users. By delivering precisely what users desire in a game, developers can create personalized, more targeted features and products that enhance the overall gaming experience. Hence, it can be seen that data analytics is no longer a small component and has become essential to guarantee growth and smoothness in business operations. This necessitates an analysis of the competitive effects such a tool can have, as it is only bound to become a more significant and dominant part of business functions.

ESTABLISHING THE NEXUS BETWEEN DATA ANALYTICS AND COMPETITION LAW

It has been rightly said the world is one big data problem.²⁹ Data is arguably everywhere, and the real value of data will, in fact, significantly depend on the knowledge that can be extracted from it.³⁰ Acquiring Data in itself is not an anti-competitive practice per se; rather, it is the analysis of that Data that can result in dangerous and manipulative practices. Due to the ever-growing commercial importance of data and technology, there can be seen a practice of how large amounts of diverse data are being collected and put to aggressive use leading to economic efficiencies and anti-competitive acts.

The OECD has highlighted that Big Data analytics can fuel anticompetitive activities³¹ such as monopolization by abusing dominance, creating entry barriers for smaller and newer companies, facilitating collusive mergers, etc. Prominent examples of abuse of dominance include when the Supreme Court deemed anti-competitive Uber India's Agreements with drivers and local authorities to set prices using consumer data as well as the discounts and incentives offered to consumers pale in comparison with the fidelity-inducing discounts offered to drivers to keep them attached to the platform.³²

²⁸ Matti Mäntymäki, Sami Hyrynsalmi and Antti Koskenvoima, 'How Do Small and Medium-Sized Game Companies Use Analytics? An Attention-Based View of Game Analytics' (25 April 2019) 22 *Information Systems Frontiers* 1163.

²⁹ Hitesh Patel, 'The world is one big data problem' *WICMI* (14 June 2022) <<https://wicmi.ch/techdata/the-world-is-one-big-data-problem/>> accessed 28 December 2023.

³⁰ Bruno Lasserre and Andreas Mundt, 'Competition Law and Big Data: The Enforcers' view' (2017) *Italian Antitrust Review* 87, 89.

³¹ OECD, 'Data-Driven Innovation' <<https://www.oecd.org/sti/data-driven-innovation-9789264229358-en.htm>> accessed 4 January 2024.

³² *Uber India Systems Private Limited v Competition Commission of India* (2019) 8 SCC 697.

Not only this, but today leading digital companies are also being questioned for using data analytics unethically by employing dark pattern practices. Amazon, for example, has come under the scrutiny of the Central Consumer Protection Authority (CCPA) for triggering and misleading users into making an immediate purchase of products, subscriptions, etc, by creating a sense of urgency or scarcity.³³ Similarly, in 2018, the CCI caught the attention of the abusive dominance practices of Google, as evidenced in the case of *Matrimony v Google Inc.*³⁴ In this case, Google was found to prioritize its commercial flight services above those of third-party entities through its search engine. Notably, users were availing these services in exchange for their data, which Google, in turn, monetized by selling it to advertisers. In response to these concerns, the CCPA in India has taken proactive measures by releasing the Draft Guidelines for Prevention and Regulation of Dark Patterns in 2023³⁵ to ensure that some comprehensive framework exists to identify and prevent such instances where major tech companies employ analytics on private consumer data in ways that may be misleading, exploitative, or harmful. While Big Data analytics has undoubtedly contributed to enhancing the quality of products and services for companies, governments, and regulatory bodies are currently facing challenges related to consumer protection and competition laws.³⁶ The scrutiny from competition authorities is essential as they navigate the implications of data analytics, recognizing that its effects vary across sectors. These authorities are in the early stages of addressing these novel phenomena, and their strategies need ongoing refinement to effectively manage the evolving landscape.

Thus, in the realm of the online gaming industry, it is imperative to analyse both the data analytics receiver and the data analytics service provider to ascertain whether the data analytics result in anti-competitive behaviour and if so, determine the nature and liability arising out of such practices.

(A) THE DATA ANALYTICS RECEIVER: ONLINE GAMING COMPANIES

In the dynamic landscape of online gaming, which is the receiver of data analytics services, it is evident that the integration of data analytics has ushered novel opportunities for innovation

³³ Pallavi Singhal and Yaruqhullah, 'Government body pulls up Amazon India for 'dark' practices forcing consumers to sign up for Prime membership' *Money Control* (14 December 2023) <<https://www.moneycontrol.com/news/business/mc-exclusive-government-body-raps-amazon-india-for-dark-practices-forcing-consumers-to-sign-up-for-prime-membership-11899871.html>> accessed 15 December 2023.

³⁴ *Matrimony.com Limited v Google LLC and Others* (2018) SCC OnLine CCI 1.

³⁵ Guidelines for Prevention and Regulation of Dark Patterns 2023.

³⁶ OECD, 'Artificial Intelligence, Machine Learning and Big Data in Finance' <<https://www.oecd.org/finance/financial-markets/Artificial-intelligence-machine-learning-big-data-in-finance.pdf>> accessed 15 December 2023.

and player experience enhancement. However, as is the case with any powerful tool, the application of data analytics in this industry can have implications that extend beyond mere operational movements. Hence, it is essential to explore particularly how data analytics can be utilized by Online Gaming Companies for anti-competitive practices.

Excessive data collection as an impediment to market entry

In November 2023, another 22 betting apps were banned, with the justification citing concerns pertaining to usage, storage, and collection of data,³⁷ which underscores the seriousness attached to data-related concerns. Online games employ dark design practices to gather player data,³⁸ which may lead to anti-competitive conduct when done in excess. Most online games have some association with third-party trackers,³⁹ which contributes to strengthening the data advantage that a dominant platform may already be benefitting from.⁴⁰ This is relevant because data advantage is known to strengthen market position, dissuading players from entering the relevant market.⁴¹ This results in a denial of market access, a practice explicitly prohibited under Section 4(c) of the Competition Act, 2002.⁴²

Facilitation of Geo-blocking and Geo-Targeting

Geo-blocking refers to the process of limiting a user's access to the internet or a part of it based on their physical location.⁴³ The utilization of data analytics is integral in determining the appropriate locations for implementing geo-blocking, a process more precisely termed as Geo-analytics. Geo-analytics serves as a facilitator in making informed decisions regarding geographical restrictions.⁴⁴ Geo-blocking should not be universally interpreted as inherently anticompetitive, as its implementation may be justified for legitimate reasons. For instance, it can be employed to comply with region-specific laws or facilitate region-specific promotional

³⁷ 'Govt bans Mahadev, 21 illegal betting apps; cyberattacks against India spike' *Economic Times* (6 November 2023) <<https://economictimes.indiatimes.com/tech/newsletters/morning-dispatch/govt-bans-mahadev-other-illegal-betting-apps-cyber-attacks-against-india-spike/articleshow/104996017.cms?from=mdr>> accessed 3 January 2024.

³⁸ Samuli Ojala, 'Online games use dark designs to collect player data' *Aalto* (26 October 2023) <<https://www.aalto.fi/en/news/online-games-use-dark-designs-to-collect-player-data>> accessed 29 December 2023.

³⁹ Pierre Laperdrix, Naif Mehanna and others, 'The Price to Play: a Privacy Analysis of Free and Paid Games in the Android Ecosystem' (ACM Web Conference, France, April 2022).

⁴⁰ Ezrachi, Ariel and others, 'Competition, Market Power and Third-Party Tracking' (2019) 42 *World Competition: Law and Economics Review* 6–8.

⁴¹ *National Restaurant Association of India v Zomato Limited and Bundl Technologies Private Limited* (2022) SCC OnLine CCI 22 [9].

⁴² Competition Act 2002, s 4(c).

⁴³ Techopedia, 'Geoblocking' <<https://www.techopedia.com/definition/32362/geoblocking>> accessed 1 January 2024.

⁴⁴ Geopointe, 'What Is Geoanalytics and Why Is It Important?' <<https://www.geopointe.com/2021/06/01/what-is-geoanalytics-why-important/>> accessed 3 January 2024.

activities.⁴⁵ However, there may be cases of unjustified geo-blocking by online gaming companies, giving rise to anti-competitive conduct.⁴⁶ The ‘European Union Regulation on Geo-Blocking’, as outlined by the Commission, explicitly prohibits traders from denying consumers access to online interfaces.⁴⁷ It also forbids the imposition of disparate conditions for access to goods or services solely based on the consumer's nationality or place of residence.⁴⁸ Furthermore, the Regulation bars the application of varying payment conditions based on the buyer's nationality, the location of the payment service provider, or the site of the payment account.⁴⁹ In September 2023, the Judgment in *Valve Corporation v Commission*⁵⁰ declared that geo-blocking of a gaming platform was unlawful as it aimed to restrict the purchase of video games, available at lower prices in certain countries, by distributors and users in other nations where prices were comparatively higher. This determination of the location where lower prices were offered and the demand thereof can be said to be a product of demand forecasting,⁵¹ which again substantiates how there is facilitation of anti-competitive conduct through the rampant usage of data analytics.

Price Discrimination

Price discrimination occurs when an identical product is sold at varying prices to different individuals,⁵² and data facilitates price discrimination.⁵³ If analysed economically, price discrimination is essential and unavoidable. Illustrating price discrimination in online gaming, the International Betting Integrity Association assigns a taxation rating of 8/20 to France, reflecting a high taxation level on betting.⁵⁴ In this context, justifying price discrimination

⁴⁵ Online Casino Websites, ‘Geo-blocking and geo-targeting casino sites explained’ <<https://onlinecasinowebsites.com/geo-blocking/>> accessed 5 January 2024.

⁴⁶ Giorgio Monti, ‘Keeping Geo-Blocking Practices in Check: Competition Law and Regulation’ (20 February 2021) TILEC, 9.

⁴⁷ Regulation (EU) 2018/302 of 28 February 2018 on addressing unjustified geo-blocking and other forms of discrimination based on customers' nationality, place of residence or place of establishment within the internal market [2018] OJ L 60 I/1, art 3.

⁴⁸ Ibid, art 4.

⁴⁹ (n 47), art 5.

⁵⁰ Case T-172/21 *Valve Corporation v Commission* [2023] ECLI:EU:T:2023:587.

⁵¹ Andrii Shchur, ‘Demand forecast with different data science approaches’ *Medium* (15 March 2021) <<https://towardsdatascience.com/demand-forecast-with-different-data-science-approaches-ba3703a0afb6>> accessed 5 January 2024.

⁵² *Schott Glass (India) Private Limited v Competition Commission of India* (2014) SCC OnLine Comp AT 3 [42].

⁵³ Nathan Newman, ‘The Costs of Lost Privacy: Consumer Harm and Rising Economic Inequality in the Age of Google’ (2014) 40 William Mitchell Law Review 850, 863.

⁵⁴ International Betting Integrity Association, ‘France’ <<https://www.bing.com/ck/a?!&&p=82c471733465c9f9JmltdHM9MTcwNDY3MjAwMCZpZ3VpZD0zMjM2ZGE0YS03Njk5LTZhODctMGZmNC1kNGI1NzdhNTZiNTEmaW5zaWQ9NTE5Ng&ptn=3&ver=2&hsh=3&fcid=3236da4a-7699-6a87-0ff4-d4b577a56b51&psq=ibia+bet+france&u=a1aHR0cHM6Ly9pYmlhLmJldC9hbi1vcHRpbXVtLWJldHRpbmctbWFya2V0L2ZyYW5jZS8&ntb=1>> accessed 3 January 2024.

becomes reasonable. Offering higher odds on betting events is seen as a fair practice to offset the elevated costs associated with operating in a high-taxation jurisdiction, thereby constituting justified price discrimination. Yet, when it comes to price discrimination concerning the prize money awarded to consumers in a betting game, a different perspective arises. In this context, treating every consumer equally in terms of reward is a right to be protected.

This price discrimination can become anti-competitive, let's say when loyalty rebates are offered or through predatory pricing by offering betting events *sans* obtaining the required license, which is often of lower cost to offer and engage in by consumers. Hence, price discrimination becomes subject to antitrust scrutiny when it has a "reasonable probability" of harm to competitive processes.⁵⁵

Real-Time Analytics

Real-time analytics utilizes Data and related resources for analysis as soon as it is recorded and enters the system.⁵⁶ Despite Data being more readily available in the market, assets required to process datasets and being efficient enough to produce real-time analytics are subject to economies of scale and scope. Online gaming companies have the capability to instantly assimilate and utilize Data to enhance service quality, creating a real-time feedback loop. This dynamic has the potential to strengthen the position of established incumbents at the expense of potential new entrants, which raises competition concerns.⁵⁷ In the context of online gaming, a concrete illustration of a competition concern stemming from the use of real-time analytics is as follows: Imagine a Company consistently offers rewards to customers by closely monitoring their real-time actions. If this Company occupies a dominant position, the continuous provision of rewards may raise anti-competitive issues, potentially creating an unfair advantage by incentivization and eventually affecting the price offered to customers.

Algorithm misuse

An Algorithm is fundamentally a series of operations designed to convert an input into an output.⁵⁸ While algorithms serve various functions, they can, in practice, contribute to reduced competition and harm consumers. Algorithmic exclusionary conduct, for instance, occurs when a dominant firm's algorithm limits or completely prevents a competitor from entering the market, hindering the competitor's ability to challenge the dominant firm's position, and

⁵⁵ *Federal Trade Commission v Morton Salt Company* (1948) 334 US 37 68 S.Ct. 822, 828.

⁵⁶ Techtarget, 'Real Time Analytics' <<https://www.techtarget.com/searchcustomerexperience/definition/real-time-analytics>> accessed 1 January 2024.

⁵⁷ OECD, Executive Summary on Big Data: Bringing Competition Policy to the Digital Era (29 November 2016) 3.

⁵⁸ *Report of Bunderskartellamt on Algorithms and Competition* (November 2019) 3.

potentially adversely affecting consumers.⁵⁹ Consider a dominant online sportsbook that employs a 'probability algorithm'⁶⁰ to determine favourable or unfavourable odds. If this algorithm is implemented erroneously to disproportionately favour high-betting players, it could be interpreted as an unjust attempt to hinder competition. Similarly, if bonus algorithms are structured in a manner that substantially raises switching costs, it becomes a significant indication of market dominance, potentially suggestive of a monopoly. Analysing such practices is crucial in competitive analysis to detect and prevent potential abuses of dominance.⁶¹

Data and Information exchange leading to collusion

Collusion as a general practice can be anti-competitive⁶² and so the Data and its exchange as a process leading to collusion can also be anti-competitive. It was in the *UK Tractor Registration Exchange Case*⁶³ that the European Court of Justice elaborately discussed 'information exchange' as a facilitator of collusion. It was held that information exchange could be anti-competitive when it eliminates the uncertainty and behaviour of competitors, as it is an essential component of a healthy market. Hence, this 'information exchange' encompasses the exchange of data, including products of data analysis.

(B) ASSESSING THE COMPETITIVE EFFECTS OF CONDUCT: THE DATA ANALYTICS SERVICE PROVIDER

A data analytics provider undertakes managed services designed to handle Data for operational and analytical purposes, striving to optimize business processes and fostering informed decision-making.⁶⁴ It has been established that Data is an essential facilitating factor for acquiring and maintaining market dominance.⁶⁵ However, there should be a distinction

⁵⁹ OECD, *Competition Policy Roundtable Background Note on Algorithmic Competition* (2023) 17.

⁶⁰ Techround, 'Online Casino Algorithms Explained' <<https://techround.co.uk/other/online-casino-algorithms-explained/#:~:text=Casinos%20use%20algorithms%20to%20generate,if%20your%20%241%20wager%20won>> accessed 4 January 2024.

⁶¹ Aaron S Edlin and Robert G Harris, 'The Role of Switching Costs in Antitrust Analysis: A Comparison of Microsoft and Google' (2013) 15(2) Yale JL & Tech 170.

⁶² Concurrences, 'Collusion' <<https://www.concurrences.com/en/dictionary/Collusion-12162#:~:text=Typical%20forms%20of%20explicit%20collusion,regardless%20of%20any%20possible%20justification>> accessed 21 December 2023.

⁶³ *UK Agricultural Tractor Registration Exchange Case* [1992] OJ L 68.

⁶⁴ Gartner, 'Data and Analytics Service Providers Reviews and Ratings' <<https://www.gartner.com/reviews/market/business-analytics-services-worldwide>> accessed 3 January 2024.

⁶⁵ Wolfgang Kerber, 'Digital Markets, Data, and Privacy: Competition Law, Consumer Law, and Data Protection' (2016) GRUR Int 639-647.

between assessing the way Data is used by a data controller and a data processor⁶⁶ and the competitive effects that follow.

Competitive effects of Data as an ‘input’

The integration of *Data* as an essential input for various products and services has become increasingly prevalent, which is a trend underscored by the rise in software and online services. Companies leveraging extensive datasets for seamless operations and continuous enhancement possess a competitive edge in the market. In the context of a business whose purpose is to solely provide data analytics services, Data becomes its product but when utilized by its clients, such Data becomes an input. It is crucial to refer to *Telefónica UK/Vodafone UK/Everything Everywhere/JV*⁶⁷ as it extensively discusses how a transaction would affect the market for data analytics services. The European Commission took into account whether a combination of Data, including personal information, response data, location data, behavioural and browsing data, would constitute a ‘unique’ dataset that qualifies as an ‘essential input’ for the specific mobile advertising market. The assessment focused on whether other providers of mobile advertising services would be reliant on the venture in question for such inputs, creating a scenario where competition becomes unattainable without access to these essential inputs.⁶⁸ In the market for data analytics services for online gaming, the *Telefonica UK* principle applies, wherein Data is considered a ‘commodity’⁶⁹ when other Players are also able to provide targeted services leveraging customer data generally available and identical to that specifically provided to the online gaming platform or service. In online gaming, companies do not face a scarcity of player data; instead, they encounter difficulties related to the analysis of the available data,⁷⁰ which highlights that all competitors in the data analytics service providers market have an opportunity to access datasets and the analysis being the service provided is what produces the ‘data input’.

Data input foreclosure

It is pertinent to examine whether this Data, in the capacity of an input, can have the potential to foreclose competition. Generally, the threshold for lack of access to data to constitute

⁶⁶ Greg Sivinski, Alex Okuliar and Lars Kjolbye, ‘Is Big Data a big deal? A competition law approach to big data (2017) 13 European Competition Journal 199.

⁶⁷ *Telefónica UK/Vodafone UK/Everything Everywhere/JV* (Case COMP/M.6314) [2013] OJ C66/5.

⁶⁸ *Ibid* [539].

⁶⁹ (n 67) [543].

⁷⁰ Opentext, *Analytics for the Games Industry: How to increase engagement and forge tight customer relationships* (White Paper, Cm 2023) 6.

foreclosure is extremely high.⁷¹ In *Microsoft/LinkedIn*,⁷² it was held that LinkedIn's complete data or data subset was not a unique input if Customer Relationship Management (CRM) and Machine Learning (ML) Solutions were taken into account. This is because ML and CRM development has developed and can be developed further without the requirement of access to LinkedIn's datasets. This essentially means that regardless of the industry in question, data analytics tools have developed and continue to develop, which reduces the scope of foreclosure of other data service providers. Hence, data analytics services act as a *processor* of data of particular datasets given by clients, which is unlikely to produce anticompetitive effects if seen independently.

IN CONVERSATION WITH AN ESTABLISHED DATA ANALYTICS SERVICE PROVIDER: LOGNORMAL ANALYTICS HYDERABAD

The objective of this study is to analyze a local data analytics service provider with expertise in data analytics in online gaming. Understanding a company's viewpoint within the ecosystem offers a dual perspective, enriching the overall comprehension of the dynamics at play. Lognormal Analytics,⁷³ based in Hyderabad, is a data analytics service provider specializing in online gaming which was established in 2014 by Founder and CEO Mr. Mayank Pachauri. It offers data analytics services such as Business Intelligence (BI) development, reporting services, consulting, algorithm development, data modelling, and architecture. Mr. Pachauri's views on data analytics service and potential anti-competitive conduct are;

"Data is a resource and an ingredient to run the business, and the risk of anti-competitive practice is fairly low as we are merely the processors and not the controllers of the data we deal with."

Measures taken by Lognormal with respect to Data Protection and Utilisation

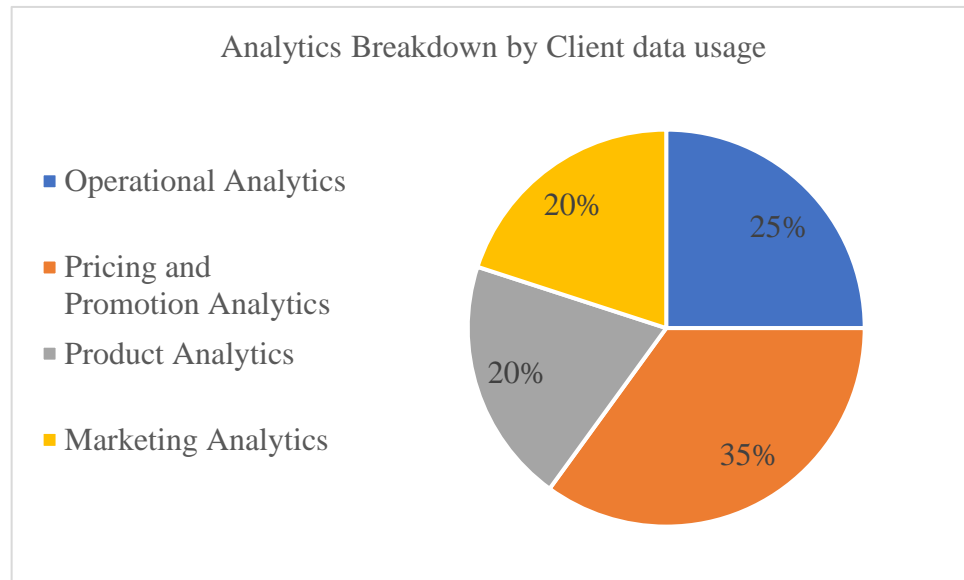
Lognormal Analytics processes nearly 2 terabytes of data every day, closely monitoring 565 Key Performance Indicators (KPIs) on a daily basis, which includes handling data for almost half a million customers daily. Recognizing the potential consequences of mishandling data, the Company prioritizes compliance measures, notably holding ISO 27001 and ISMS Certification. Moreover, Lognormal Analytics adheres to a strict policy of refraining from

⁷¹ Case C-7/97 *Oscar Bronner GmbH and Company KG v Mediaprint Zeitungs und Zeitschriftenverlag GmbH and Company KG* [1998] ECR I-07791; Case C-418/01 *IMS Health GmbH and Company OHG v NDC Health GmbH and Company KG* [2004] ECR I-05039.

⁷² *Microsoft/LinkedIn* (Case Com./M.8124) Commission Decision C [2016] 8404 OJ L 1.

⁷³ Lognormal <<https://lognormal.io/>> accessed 30 December 2023.

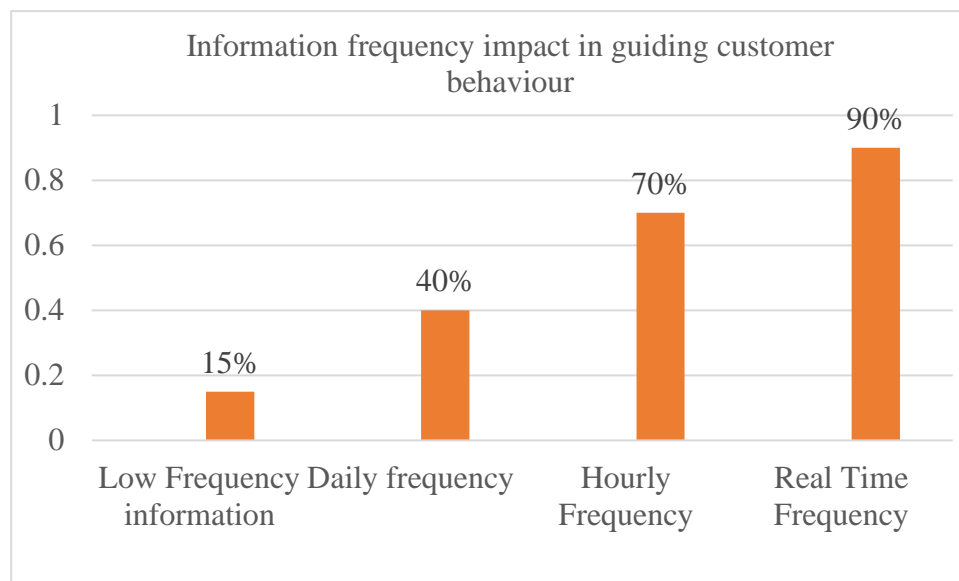
handling Personal Identifiable Information (PII), which encompasses Data related to customers' finances, client employees, and details of the deals the client is involved in or has undertaken. This essentially means that the principles of 'purpose limitation' are strictly adhered to, and its activities fit the definition of a 'data processor.'⁷⁴



(Source: Self-made chart based on Lognormal Analytics data 1)

It is feasible to discern specific segments of the analysed data that could potentially be employed for future anti-competitive conduct. For instance, 'Operational analytics' primarily focuses on assessing customer services and experiences, and this category typically lacks anticompetitive implications as it primarily involves data related to the company's operations and interactions with customers. On the other hand, 'Marketing analytics' provides insights into marketing spend, distribution, and cost per acquisition, presenting the possibility of being exploited for anti-competitive advertising practices. Similarly, 'Pricing and Promotion analytics' encompass services like pricing algorithms and margin determination, which, if misused, could facilitate clients in engaging in further anti-competitive practices.

⁷⁴ Insights Opinion, 'Data Related Services' <<https://insightsopinion.com/service/data-processing-and-analytics/#:~:text=A%3A%20Data%20processing%20involves%20transforming,large%20and%20complex%20data%20sets>> accessed 31 December 2023.



(Source: Self-made chart based on Lognormal Analytics data 2)

The question that arises is how the utility and competitive power of Data changes based on access and speed of access to Data. As seen above, the frequency with which Data is received largely determines how a customer behaves, which is proportional to the manipulative power Data can have. Hence, if a firm in a dominant position in the market has the ability and resources to process real-time data, it can have a great impact on guiding customer behaviour to create barriers or unfair trade conditions in the market.

INTERSECTION OF CONSUMER DATA PROTECTION WITH ANTI-TRUST IN ONLINE GAMING

The importance of consumer data in competition analysis is continually on the rise.⁷⁵ A notable development took place in recent times, wherein the US Department of Justice (DOJ) Antitrust division stated that it would hire more data experts to investigate antitrust violations specifically concerning consumer data.⁷⁶ The preamble of the Competition Act 2002⁷⁷ also explicitly states that the protection of consumer interests is a legislative intent. This relationship exists as in a healthy and competitive market, consumers automatically benefit from the range of products and services available and are subject to more informed choice-making. Hence, if

⁷⁵ OECD, *Consumer data and Competition: A new balancing Act for online markets?* (18 December 2020).

⁷⁶ Jeffrey J. Amato, 'Consumer Data Monetization: The Antitrust Risks You Need to Know' Winston & Strawn LLP (18 April 2023) <<https://www.winston.com/en/blogs-and-podcasts/competition-corner/consumer-data-monetization-the-antitrust-risks-you-need-to-know>> accessed 03 January 2024.

⁷⁷ Competition Act 2002, Preamble.

Data is seen as a product or a service, the same analogy applies, and ‘consumer’s data interests’ are also bound to be a part of competition analysis and protection.

Data privacy has also been recognised as a non-price factor by the CCI and is subject to competition law analysis.⁷⁸ Consumer data privacy’s relevancy can be highlighted in two ways; *firstly*, consumer preference for privacy and personal data protection largely drives product or service choice which puts certain businesses having these features at a competitive advantage. *Secondly*, access to consumer data should be seen as a weapon in terms of enhancing marketing or reach of a product or service which in excess may create barriers for smaller competitors *sans* access to the same quantum of data.

A ‘privacy concern’ is defined as a concern pertaining to the safeguarding and utilisation of data provided to an entity.⁷⁹ An example to explore the data privacy concerns in the context of consumer data in the online gaming industry, which can lead to potential anti-competitive effects, is the use of NPCs. At the core of every gaming enterprise lies its user base, as these companies continually invest in enhancing immersive experiences. A notable instance is Blizzard's 'World of Warcraft' from the 1990s, which ascended to the status of the "most popular online multiplayer game" by introducing distinctive features such as adaptable goals, real-time communication through text and voice chat, providing players with an enriched environment. Nevertheless, it's imperative to acknowledge that the development of highly realistic NPCs in the gaming industry involves the utilization of extensive personal data for analytics purposes.⁸⁰ Though, this data is employed to imbue NPCs with diverse responses, emotions, and memories, aiming to create an authentic gaming atmosphere. However, the creation and management of these immersive AI-generated tools like NPCs raise privacy concerns as data analytics and generative AI empower these NPCs to craft personalized dialogues, moving beyond conventional scripted interactions.⁸¹ Further, NPCs engage with players by employing AI-driven responses that dynamically assess the player's mood and skills, elevating the overall

⁷⁸ CCI, *Market Study on the Telecom Sector in India* (2021).

⁷⁹ Sandro Castaldo and Monica Grosso, ‘Retailer-Customers Relationships in the Online Setting: An Empirical Investigation to Overcome Privacy Concerns and Improve Information Sharing’ in Fabio Musso and Elena Druica (eds.), *Handbook of Research on Retailer-Consumer Relationship Development* (IGI Global 2014).

⁸⁰ Laura Craig and Miles Harmsworth, ‘AI, data and gaming’ *TaylorWessing* (31 July 2023) <<https://www.taylorwessing.com/en/interface/2023/ai-and-video-games/ai-data-and-gaming>> accessed 7 January 2024.

⁸¹ Julian Frommel, Cody Phillips and Regan L Mandryk, ‘Gathering Self-Report Data in Games Through NPC Dialogues: Effects on Data Quality, Data Quantity, Player Experience, and Information Intimacy’ (CHI Conference on Human Factors in Computing Systems, 7 May 2021)

gaming experience involving the collection and processing of large amounts of personal data⁸² for which the players might not have fully consented, thereby lacking transparency and an informed choice about the existence of AI moderated tools.

Recently, Avatar-generating app Lensa's lawsuit for allegedly using the app's user's facial geometry data, and biometrics and not leaving the user's device⁸³ is evidence of how such generative AI tools can lead to major privacy breaches to the personal data of consumers. Such a privacy concern, as illustrated above is of competition relevance because through offering personalized services in online games, the data collected can be used for targeted advertising purposes and creating strong lock-in effects.

SOLUTIONS AND SUGGESTIONS

The authors after taking into account the nature of Data and its dynamic use, have observed that there is a need to incorporate certain changes in the way data analytics in online gaming is addressed in the Indian competition law regime. It is undeniable that data usage and the way it is used is only going to develop, and thus, becomes pertinent for the competition regime to be equipped to deal with it.

Adopting the integrationist view

The integrationist view states that privacy arguments should be incorporated into competition law analysis.⁸⁴ The authors agree with this approach, especially in the context of the online gaming market. This happens to be the case because there is an intersection of the two fields in a way that consumers may be influenced by data protection standards which have the power to influence competition law analysis and assessment. The Digital Markets Act, 2022 (DMA) of the European Union is an example wherein an assumption is made that competition law is on its own unfit to tackle certain systematic problems and should be coupled with other disciplines such as data protection.⁸⁵ Article 5(2) of DMA⁸⁶ emphasises how online

⁸² Simon Hembtz and Oliver Belitz, 'The Rise of Generative AI in Gaming and Its Legal Challenges (Part 1)' *MediaWrites* (17 November 2023) <<https://mediawrites.law/the-rise-of-generative-ai-in-gaming-and-its-legal-challenges-part-1/#page=1>> accessed 3 January 2024.

⁸³ Taylor Dafoe, 'A Class Action Lawsuit Against a Popular A.I. Art Generator Alleges the App Collects Its Users' Biometric Information Without Their Permission' *Artnet* (16 February 2023) <<https://news.artnet.com/art-world/class-action-lawsuit-lensa-ai-prisma-labs-biometric-information-2257096>> accessed 26 December 2023.

⁸⁴ Arletta Gorecka, 'Competition Law And Privacy: An Opinion On The Future of a Complicated Relationship' *Wolters Kluwer* (8 June 2022) <<https://competitionlawblog.kluwercompetitionlaw.com/2022/06/08/competition-law-and-privacy-an-opinion-on-the-future-of-a-complicated-relationship/>> accessed 29 December 2023.

⁸⁵ European Commission, 'The Digital Markets Act: ensuring fair and open digital markets' <https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/digital-markets-act-ensuring-fair-and-open-digital-markets_en> accessed 3 January 2024.

⁸⁶ Digital Market Act 2022, art 5(2).

gatekeepers' accumulation strategies may lead to anti-competitive effects such as the foreclosure of rivals. In India, however, in *Vinod Kumar Gupta v WhatsApp*,⁸⁷ the CCI observed that privacy as a component of data protection was not to be dealt with as a competition concern. However, this approach can prove to be detrimental in the long run due to the integration of businesses with Data. Hence, through its judgments and competition analysis, the CCI should ensure uniformity in terms of adopting the integrationist view as it will serve a dual purpose of acting as a deterrent effect to consumer harm and as a recognition of data protection as an essential component of competition analysis.

Addressing jurisdictional issues in the integrationist view

Naturally, there would be an increase in the overlapping of jurisdiction if the integrationist view is adopted. As per *CCI v Bharti Airtel Limited*⁸⁸ it was held that sectoral regulators shall be dealing with issues pertaining to that sector and only then can CCI take cognizance of such matter. However, *Monsanto Holdings Private v CCI*⁸⁹ saw that the principle laid down in *Bharti Airtel* is not the general rule and that the CCI's jurisdiction is not automatically replaced in the presence of another sectoral regulator. More recently, in July 2023, in the case of *Telefonaktiebolaget LM Ericson v CCI*⁹⁰ the maxim of *generalalia specialibus non derogant* was set to prevail which ousted CCI's jurisdiction in sectoral matters.

Sometimes the line is blurred as to which sector an issue falls in, for instance, Data is now seen as a non-price factor, and data protection if seen in an integrated way could come under the data protection regime or the competition regime.⁹¹ Hence, a solution would be to clearly identify which parts of a case should be specifically addressed by which regulator and in what capacity as there are bound to be distinct considerations despite the examination being of a similar element.

Addressing Market definitions

Market definition is an extremely essential tool for determining competitive constraints faced by a firm and assessing its impact on competition.⁹² The relevance of defining the relevant market can not be overlooked, particularly when big tech and AI-backed companies are

⁸⁷ *Vinod Kumar Gupta v WhatsApp Inc* 2017 SCC OnLine CCI 32.

⁸⁸ *Competition Commission of India v Bharti Airtel Limited* (2019) 2 SCC 521 [103]-[4].

⁸⁹ *Monsanto Holdings Private v Competition Commission of India* (2020) 82 PTC 599.

⁹⁰ *Telefonaktiebolaget LM Ericson v Competition Commission of India* 2023 SCC OnLine Del 4078.

⁹¹ Shwetha and Pavan Kumar, 'Anti-Trust and Privacy: Is it Feasible for Two Laws to Intersect' (2021) 4 IJLMH 805.

⁹² OECD, *Market Definition* (11 October 2012).

involved; the CCI's delineation of relevant markets in *CCI v Google* is a prominent example.⁹³ Similarly, assessing the influence of data analytics on competition analysis, the relevant market takes on a major role in the online gaming industry as well. Currently, a relevant market for Data can be identified and demarcated when there are actions such as buying or selling of data where Data is a 'commodity'.⁹⁴ However, when Data is seen as an input, it is usually seen bundled up with the service or product for which it serves as an input and part of the market of that product or service. On a practical and implementable level, the authors do not agree that entirely new market definitions are needed, but existing definitions should be widened on a case-to-case basis to understand the internal impact and relationships of the Data in question. It is after these preliminary changes that more advanced solutions can be adopted regarding situations such as data-driven mergers. Hence, these solutions would aid data analytics service providers and receivers in gauging their liabilities and responsibilities and understanding that data has the potential to be perceived and treated in a myriad of ways.

CONCLUSION

It is asserted that now is the perfect time to take action to ensure that the competition regime parallelly incorporates what is needed, especially when we are aware of the speed at which Data and its application are integrating themselves into the economy. Especially in the context of Online Gaming, the usage of data has revolutionised the industry and its working, which complicates the debate around anti-competitive practices resulting from data analytics and such tools, which are far from being discussed.

Further, the privacy of consumers has been increasingly overlooked by online gaming companies, which only focus on using Data to increase monetization, user base, and entertainment value of their gaming interface. Thus, it is the need of the hour to consider privacy as a significant component of competition analysis.

There are prominent examples of the ever-growing focus by competition law regulators worldwide to check and regulate the potential ill effects of excessive and exploitative use of Big Data, such as CCI's examination of Google⁹⁵ and the European Union's directions in the

⁹³ Competition Commission of India Press Release, 'CCI imposes a monetary penalty of Rs. 1337.76 crore on Google for anti-competitive practices in relation to Android mobile devices' (20 October 2022) <<https://www.cci.gov.in/antitrust/press-release/details/261/0>> accessed 15 December 2023.

⁹⁴ Pamela Jones Harbour and Tara Isa Koslov, 'Section 2 in a Web 2.0 World: An Expanded Vision of Relevant Product Markets Symposium: Issues at the Forefront of Monopolization and Abuse of Dominance' (2010) 76 Antitrust Law Journal 769–798.

⁹⁵ *XYZ (Confidential) v Alphabet Inc 2022 SCC OnLine CCI 63*.

Valve Corporation case,⁹⁶ etc. However, there is a need to assess the nature of Data and differentiate between Data as an ‘input’ or as a ‘product’ and examine ‘data analytics’ separately to determine the kind of competitive effects it has.

This research paper has restricted its interpretation only to the study of the use of data analytics in the online gaming industry, an overview of the anti-competitive effects of such use as well as the potential solutions and suggestions that can be incorporated with the increasing role of CCI to address the issue at hand and encourages the extension of the study in future avenues.

⁹⁶ (n 50).