

REGULATING ALGORITHMS IN INDIA

KEY FINDINGS AND RECOMMENDATIONS

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The **State Capacity Initiative** at the Centre for Policy Research is an interdisciplinary research and practice programme focused on addressing the challenges of the Indian state in the 21st century. The purpose of this initiative is to place the critical challenges of building state capacity at the heart of the field of policy research in India, where it has always belonged but remains surprisingly marginalised. We therefore start with first principles and ground ourselves in existing realities to deepen and expand the understanding of the challenges and possibilities of building state capacity in a democratic and federal India. Our programme of work focuses on the changing roles of the Indian state: institutional design, implementation and administrative capacity; the challenges of regulatory and fiscal capacity; and the complex and changing relations between society, politics and state capacity in India.

The following paper is part of a larger body of work on regulation and regulatory design and capacity in India.

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SUMMARY

Algorithms have an overpowering influence on our lives in this era of rapid digital transformations. Technology companies are deploying algorithms in many ways, for example, to demonstrate rankings and search results for purposes of data collection, personalise user experience and show dynamic pricing. But these systems are susceptible to creating many kinds of consumer harms that create anti-competitive effects and hurt consumer interests. This paper attempts to understand the nature of India's digital economy, consolidates scholarly examinations on algorithmic harms, and examines the suitability of India's competition landscape to regulate its digital economy. The paper also studies India's competition regulatory design and capacity and evaluates the preparedness of the Competition Commission of India to investigate algorithms. Finally, the paper proposes recommendations for India to develop a comprehensive antitrust strategy to address algorithmic harms and the position best suited to deal with rapid technological advancements in the digital era.

INTRODUCTION

Algorithms have an overpowering influence on our lives in this era of rapid digital transformations. Technology companies are deploying algorithms in many ways, for example, to demonstrate rankings and search results for purposes of data collection, personalise user experience and show dynamic pricing. But algorithmic systems also remain partial black-box models, “meaning that humans, even those who design them, cannot understand how variables are being combined to make predictions”.¹ Therefore, these systems are susceptible to creating many kinds of consumer harms that create anti-competitive effects and hurt consumer interests. Because of these developments, governments across the world have called for a reconsideration of how technology companies, their products, and their service offerings are regulated.

Although there are many challenges that policymakers confront in regulating algorithms, this paper focuses mainly on three concerns. First, the availability of big data with developments in algorithmic models has purportedly led to new kinds of consumer harms – such as personalization and algorithmic collusion - hitherto not in existence in a traditional offline marketplace. Data indicates that only a few big companies continue to dominate the country's online economy and there are growing risks for consumers if these firms continue to consolidate market power. In 2019, Facebook and Google controlled 68% of India's digital ad market revenues; Amazon and Flipkart together has a market share of 63% in the e-commerce ecosystem.² While India's competition regulator, the Competition Commission of India (CCI), has not shied away from penalising technology firms for anti-competitive conduct,³ it is still operating under the guidance of a competition framework that is not fully tuned in to understand and regulate the digital market. Furthermore, a lot of its current processual, operational, and institutional architecture also needs a rejig to align with the needs of the digital market.

Second, it is said that algorithms can automate moral hazards⁴ because of their complex infrastructure. Governments need to recognise that these systems must be monitored by a human in the loop⁵ and regulatory responses must be based on a well-informed understanding of the design, utility, and vulnerabilities of Artificial Intelligence (AI) systems. Third, there are fundamental rights implications of big data. Aggregation, consolidation, and processing of data in market will impact user privacy and algorithmic decision-making can perpetuate biases (that are also quite intrinsic to human decision making). There is also a lack of a harmonious, constitutionally valid data governance framework in India. In 2017, the Supreme Court's unanimous verdict in Justice KS Puttaswamy (retd.) v. Union of India⁶ recognised the right to privacy, including informational privacy, as a guaranteed fundamental right in the Indian Constitution. While the case was ongoing, the Indian government also set up an expert committee to formulate India's data protection framework. A white paper was released for public consultation,

1 Rudin, C., Radin J. 2019. “Why Are We Using Black Box Models in AI When We Don't Need To?”. *Harvard Data Science Review*.

2 Gill, P. 2019. “Google, Facebook and their story behind controlling 60% of India's digital ads”. *Business Insider*. Retrieved from <https://www.businessinsider.in/google-and-facebook-lead-in-digital-ads-market-share/articleshow/70122312.cms>.

3 Press Trust of India. 2018. “Google fined Rs 136 crore for unfair business practices in India”. *Business Today*. Retrieved from <https://www.businesstoday.in/technology/top-story/google-found-guilty-of-misusing-android-dominance-in-india-cci-orders-wider-probe/story/359814.html>

4 Mullainathan S, and Obermeyer, Z. 2017. “Does Machine Learning Automate Moral Hazard and Error?”. *American Economic Review: Papers & Proceedings*, 107(5): 476–480 <https://doi.org/10.1257/aer.p20171084>

5 Wang, G. 2019. “Humans in the Loop. The Design of interactive AI Systems”. Human-Centered Artificial Intelligence, Stanford University.

6 Supreme Court of India, (24 August, 2017), Justice KS Puttaswamy (retd.) vs Union of India, available at <https://indiankanoon.org/doc/91938676/>

followed by the draft Personal Data Protection Bill⁷ and an accompanying report “A Free and Fair Digital Economy: Protecting Privacy, Empowering Indians”⁸ under the Chairmanship of Justice B.N. Srikrishna, a former judge of the Indian Supreme Court. The current version of the Personal Data Protection Bill (“PDP Bill” or “Bill”)⁹ was tabled in the Lok Sabha (lower house of the Indian Parliament) in December 2019. The Bill focuses on regulating the manner in which personal data is collected from citizens and subsequently processed, while in parallel vesting individuals with rights over their personal data and could potentially lead to significant overhauls in the way digital businesses and technology companies operate in the country. But the Indian Parliament is yet to pass this bill. The PDP Bill establishes a Data Protection Authority (DPA)¹⁰ to protect the interests of the data principal, prevent any misuse of personal data and ensure compliance with the provisions of the Bill. The DPA, thus, is an authorised regulatory body to oversee the processing of personal data by public and private data fiduciaries. The DPA is expected to protect the privacy of the data principal and also, protect the economic interests of the country. But these are contradictory functions more often than not, and how the DPA will effectively straddle the contradiction is highly uncertain.

Regulators in the United States and Europe have been attempting to drill into the nature of algorithmic systems since 2012, when they first started to discuss the concept of “search neutrality”.¹¹ Can regulators require a monopolistic search engine (like Google) to force its algorithm to act in certain ways towards certain competing sites?—is a question that governments continue to grapple with. In addition, the heart of the regulatory practice across the world is also shifting towards changing existing market practices to regulate algorithms themselves instead of just focusing on regulating companies that create them. This shift in regulatory thinking has led to broad examinations on the algorithmic systems, deployers of these systems, and recommendations for sociotechnical methods¹² and algorithmic audits to examine the nature of these systems. Algorithms are complex and may have stirred up a hornet's nest, but the algorithmic regulatory landscape is even more complex. On the one side, there are demands that governments regulate the big tech companies through an ecosystem of new regulatory rational that involves data protection legislations, AI, and competition regulations to check algorithmic harms in digital markets. On the other side of this debate is an opinion that monopolies can exist only so long as there isn't disruptive innovation in that space of product offering.¹³

Many countries across the world are trying to simplify this complex environment by drawing up a comprehensive strategy to regulate digital markets. In line with the spirit, the United Kingdom's Competition and Markets Authority (CMA) has launched a new programme of work — “Analysing Algorithms” — to explore whether and how algorithms might harm consumers. On 19 January 2021, the

7 (2018), Srikrishna Committee Report on Data Protection, available at <http://www.prsindia.org/uploads/media/Data%20Protection/Committee%20Report%20on%20Draft%20Personal%20Data%20Protection%20Bill,%202018.pdf>

8 Ministry of Electronics and Information, (2018), A Free and Fair Digital Economy: Protecting Privacy, Empowering Indians, available at https://meity.gov.in/writereaddata/files/Data_Protection_Committee_Report.pdf

9 (2019), The Personal Data Protection Bill, available at https://prsindia.org/sites/default/files/bill_files/Personal%20Data%20Protection%20Bill%202019.pdf

10 Clause 41, Bill

11 Crane, A. 2012. “Search Neutrality as an Antitrust Principle.” *Geo. Mason L. Rev.* 19, no. 5: 1199-209.

12 Katzenbach, C. & Ulbricht, L. (2019). Algorithmic governance. *Internet Policy Review*, 8(4). <https://doi.org/10.14763/2019.4.1424>

13 Larouche, P. 2020. “Platforms, Disruptive Innovation, and Competition on the Digital Market”. *Competition Policy International*. Retrieved from <https://www.competitionpolicyinternational.com/platforms-disruptive-innovation-and-competition-on-the-market/>

CMA published a research paper¹⁴ detailing the themes that the programme of work intends to study.¹⁵ Meanwhile in India, the Ministry of Information and Technology (MeitY) projects that the country's digital transformation has the potential to create \$1 trillion of economic value by 2025.¹⁶ But this vision for a trillion-dollar opportunity can be advanced only under the support of a robust data protection law, anti-competitive regulations suited for the digital economy, and a comprehensive governance model to regulate algorithmic decision-making systems.

This paper attempts to understand the nature of India's digital economy, consolidates scholarly examinations on algorithmic harms, and examines the suitability of India's competition landscape to regulate its digital economy. The paper also studies India's competition regulatory design and capacity, and evaluates the preparedness of India's competition regulatory authority, the CCI, to investigate algorithms. Finally, the paper proposes recommendations for India to develop a comprehensive antitrust strategy to address algorithmic harms and the position best suited to deal with rapid technological advancements in the digital era. Insights from the NITI Aayog, Ministry of Electronics and Information Technology, NASSCOM, OECD, Oxford Internet Institute, and the United Kingdom's Competition and Markets Authority have aided the conceptualisation of themes discussed in the paper.

While a wide range of ideas and issues are covered in this paper, it is by no means fully comprehensive. The paper covers questions on regulatory design and competition policy in India, while only referring to first order questions on the value and purpose of regulating digital markets. I will write a follow-up paper to this to not only address these first-order questions, but also delve further into elaborating on some ideas put forth in this paper. Ideas on anti-trust are grounded in economics, law, philosophy, and business history, and it is hard to cover the length and breadth of this ecosystem in one paper. Having said this, the aim of this paper is to serve as an entry point for further investigations on regulation of digital markets in India, and to provide a long view on issues surrounding the digital competition landscape. To that extent, I hope this paper justifies its scope.

ALGORITHMS AND DIGITAL MARKETS

Digital markets are different from traditional markets for the main reason that they not merely link the buyer to the seller, but they perform other important functions. Digital markets aggregate data and build up scale through network effects, disrupt existing markets and consolidate fragmented markets, and provide market access to the stakeholders in a manner that results in transactional efficiency.¹⁷ The European Union elaborates on some characteristics of the digital economy¹⁸ including extreme returns to scale (this may have existed in the past, but is more pronounced in the digital space), network externalities, and the role of data through its collection, storage, and use. While there are immense advantages for consumers and sellers, the algorithmic nature of these digital markets¹⁹ can be detrimental to competition

14 Competition & Markets Authority. 2021. "[Algorithms: How they can reduce competition and harm consumers](#)".

15 See Annexure I for a summary of the CMA's research study.

16 Competition & Markets Authority. 2019. "[India's Trillion Dollar Digital Opportunity](#)".

17 OECD. 2014. "Addressing the Tax Challenges of the Digital Economy". *OECD/G20 Base Erosion and Profit Shifting Project*, OECD Publishing, Paris, p.84 <https://doi.org/10.1787/9789264218789-en>

18 Cremer et al. 2019. Competition Policy for the Digital Age. *European Union*.

19 OECD. 2017. "Algorithms and Collusion: Competition Policy in the Digital Age" *pg:8-17*. Retrieved from <https://www.oecd.org/daf/competition/Algorithms-and-collusion-competition-policy-in-the-digital-age.pdf>

and consumer welfare. These deficiencies can be itemised as algorithmic harms, which the CMA, the United Kingdom's antitrust watchdog, has comprehensively categorized. This categorisation goes beyond pricing harms by including geographic targeting, algorithmic (explicit and tacit) collusion and algorithmic discrimination.²⁰

But the CMA's list of algorithmic harms is also, by no means finite for two reasons:

First, the architecture of digital markets is very complex. There are new kinds of products introduced in the digital marketplace every day that can potentially create new kinds of hitherto unknown consumer harms. Second, AI systems may consist of many patterns, each of these using different technologies. They may be grouped into classical IT (cIT), symbolic AI (sAI) and connectionist AI (cAI).²¹ Connectionist AI systems are trained with data and are in the form of deep neural networks and Machine Learning (ML) but there are challenges to auditing these systems.

The use of deep neural networks has helped in the improvement of system performance in terms of efficiency, but they pose new challenges for safety, security, robustness, and trustworthiness.²² Scholars have also argued that algorithmic systems are dangerous for three factors: opacity, scale, and damage.²³ Traditional digital systems involve painstaking coding by software engineers. These systems can be monitored and audited because their code is transparent and behaves in a manner that is predictable. In these cases, the human engineer has control over the digital system's code. But many algorithmic systems today are opaque as they use deep neural networks composed of layers upon layers of artificial neurons that make it hard to monitor, predict or probe into these systems.

E-commerce platforms are focussed on personalisation of consumer experience. A by-line in a market research blog—“How AI is helping brands treat consumers with empathy at scale”²⁴—is a fitting example of how the consumer behaviour industry thrives on personalisation. Personalisation of consumer experience through targeted ads and dynamic pricing, it is shown, cannot be done without discrimination. As an example, several studies show that ads for high-paying job opportunities on platforms such as Facebook and Google are served disproportionately to men.²⁵ Another issue here is of user consent. Even if e-commerce sites obtain user consent before personalisation, the larger question then is about how companies should communicate ethical issues in algorithmic systems to the user. This is not something that we have a clear answer for yet. What we do know is that companies create, capture, store, process and transfer vast amounts of data through their algorithms to study consumer behaviour in their platforms. The business model takes in as much information about the user from the user herself,

20 Competition and Markets Authority. 2021. Algorithms: How they can reduce competition and harm consumers. Retrieved from <https://www.gov.uk/government/publications/algorithms-how-they-can-reduce-competition-and-harm-consumers/algorithms-how-they-can-reduce-competition-and-harm-consumers>

21 Polyakov, E.V., Mazhanov M.S., Rolich A.Y., Voskov L.S., Kachalova M.V., Polyakov S.V. 2018. “Investigation and Development of the Intelligent Voice Assistant for the Internet of Things using Machine Learning.” *Moscow Workshop on Electronic and networking Technologies*.

22 Fraunhofer. 2021. “Towards Auditable AI Systems: Current Status and Future Directions.” Retrieved from https://www.hhi.fraunhofer.de/fileadmin/News/2021/White_Paper/20210504_Whitepaper_Towards_Auditable_AI_Systems_-_Current_status_and_future_directions_final.pdf

23 O'Neil, C. 2016. “Weapons of Mass Destruction.” *Crown*. Available at <https://www.amazon.in/Weapons-Math-Destruction-Increases-Inequality/dp/0553418815>

24 Davis, K. 2020. “From sentiment to empathy: understanding how customers feel”. *Martech Today*. Retrieved from <https://martechtoday.com/from-sentiment-to-empathy-understanding-how-customers-feel-245654>

25 Lambrecht A., Tucker C. “Algorithmic Bias An Empirical Study of Apparent Gender-Based Discrimination in the Display of STEM Career Ads.” *Management Science* 65 (7) 2966-2981 <https://doi.org/10.1287/mnsc.2018.3093>

in both explicit and implicit ways, and without adequate legal and regulatory safeguards, algorithmic harms can pose serious threat to a consumer's right to privacy.²⁶ This is of greater concern because India does not have a Personal Data Protection law in place yet. Also, algorithmic decision-making is value laden. Decisions that algorithms make can sometimes undercut ethics²⁷ and create moral consequences, diminishing an individual user's rights and dignity.²⁸ These models also have the capacity to scale exponentially, certainly useful for mass scale digitisation of data but they can compromise on fairness leading to biased systems²⁹ and consequently, biased decision-making.

INDIA'S COMPETITION LAWS AND THE DIGITAL ECONOMY: ISSUES AND CHALLENGES

1) REGULATORY DESIGN

A principal question that dominates competition regulation for digital markets is the question of the right kind of regulatory mechanism needed to monitor them. Some challenges in the current regulatory design involve locating that fine balance where regulations and fast changing trends in the digital markets enable each other to realise shared objectives. India's Competition Act (2002) operates under the aegis of a philosophy that supports the dominance of the firms. It is drafted in a manner similar to the spirit of antitrust laws in the United States. In the 1970s, Robert Bork's book, "The Antitrust Paradox", and Richard Posner's theories influenced the antitrust discourse, causing a shift in the United States Supreme Court's approach to antitrust.³⁰ According to Bork, "consumer welfare (in antitrust) is the wealth of the nation". In this, his definition of "consumer welfare" is equivalent to what economists refer to as "general welfare", wherein both the producer's and consumer's welfare in sum is considered.³¹ While Bork used consumer welfare to discuss general welfare and "allocative efficiency",³² "antitrust authorities have largely measured it through effects on consumer prices."³³ In the European Union, the main parameters of competition are price, quantity, quality, choice, and innovation.³⁴

India's competition regulator, the CCI, is very keen to regulate technology firms in India. For instance, in 2018, the regulator fined Google for abusing its market dominance in India under Section 4 of the Competition Act. In the last three years, the commission has enquired into five cases against Google spanning search, Android OS, and Google's Play Store. The CCI is currently investigating Amazon and

26 Gerlick, J.A., Liozu, S.M. 2020. "Ethical and Legal Considerations of Artificial Intelligence and Algorithmic Decision-Making in Personalized Pricing". *J Revenue Pricing Management* 19, 85–98. <https://doi.org/10.1057/s41272-019-00225-2>

27 Mittelstadt BD, Allo P, Taddeo M, Wachter S, Floridi L. 2016. "The Ethics of Algorithms: Mapping the debate." *Big Data & Society*. doi:[10.1177/2053951716679679](https://doi.org/10.1177/2053951716679679)

28 Tufekci, Z. 2015. "Algorithmic Harms beyond Facebook and Google: Emergent Challenges of Computational Agency". *Journal on Telecommunications and High Technology Law* 13:203.

29 Rovastos, M., Brent, M., Koene, A. 2019. "Bias in Algorithmic Decision Making." *Government of United Kingdom*. Retrieved from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/819055/Landscape_Summary_-_Bias_in_Algorithmic_Decision-Making.pdf

30 Frum, D. 2000. "How We Got Here: The '70s". New York, New York: Basic Books. P327

31 Hovenkamp, H. "On the Meaning of Antitrust's Consumer Welfare Principle". *Revue Concurrentialiste*. U of Penn, Inst for Law & Econ Research Paper No. 20-16, Available at SSRN: <https://ssrn.com/abstract=3525385>

32 Crane, A.D. 2014. "The Tempting of Antitrust: Robert Bork and the Goals of Antitrust policy". *ANTITRUST LJ*. 835, 847

33 Khan, L. 2017. Amazon's Antitrust Paradox. *Yale Law Journal*. Retrieved from <https://www.yalelawjournal.org/note/amazons-antitrust-paradox>

34 Laitenberger, J. 2017. "EU Competition Law in Innovation and Digital Markets: Fairness and the Consumer Welfare Perspective". *European Union*. Retrieved from https://ec.europa.eu/competition/speeches/text/sp2017_15_en.pdf

Flipkart for the exclusive sale of specific brands of smartphones. In March 2021, the regulatory body ordered a probe into WhatsApp's privacy policy update³⁵ alleging a breach of antitrust provisions through its "exploitative and exclusionary conduct". This move comes after the much publicised 'take-it-or-leave-it' kind of privacy policy update from WhatsApp in January 2021.³⁶

Under India's competition law, abuse of dominance, that is, imposition of unfair or discriminatory conditions in the purchase or sale of goods, is problematised. The law prohibits enterprises from entering into any "combination which causes or is likely to cause an appreciable adverse effect on competition", as well as an agreement that "causes or is likely to cause an appreciable adverse effect on competition",³⁷ within India.³⁸ Collusion (anti-competitive agreement) is also prohibited under the Competition Act, 2002, regardless of market dominance.³⁹ But the traditional principles of competition law may not be sufficient to be applied to the digital economy,^{40,41} and there is a need for more nuance in the country's antitrust laws to investigate digital platforms.

India's competition law itself functions within a narrow ambit of harm that considers price distortion practices and abuse of dominance as major determinants to consumer welfare. Section 19(4) of the Competition Act lays out various factors that will be considered while inquiring into whether an enterprise abuses its dominant position or not. But these do not consider the unique feature of the digital markets like blurring market boundaries, network effects, multi-sidedness, and data aggregation effects. A good example to understand network effects is an issue on WhatsApp's Privacy Policy update in February 2021.⁴² The fact that WhatsApp can offer a take-it-or-leave-it policy to all its users itself is a by-product of its dominant position in the messaging-app world.

In these cases, although consumers have the choice to shift to a new platform, network effects and lack of interconnection can prevent them from doing so: users on WhatsApp may hesitate to leave the platform because many others they know and communicate with are also on the same platform; users on WhatsApp cannot communicate with users on another messaging service platform such as Signal. Although data portability is not an apparent pain point as WhatsApp allows its user to export chats, it still may not be helpful as not many users are aware of such a feature set.

This simple example illustrates that India's current competition law is not well-developed to deal with the complexities in digital markets. It still operates on a traditional understanding of markets: that is, if you are doing an offline business in India, you are doing business in a relevant market. But the digital medium is a new kind of space because it is difficult to define relevant markets for digital companies. The core of

35 Singh, M. 2021. "India's antitrust body orders probe into WhatsApp's privacy policy". Techcrunch. Retrieved from <https://techcrunch.com/2021/03/24/india-antitrust-body-orders-investigation-into-whatsapp-privacy-policy-changes/>

36 WhatsApp. 2021. "Privacy Policy".

37 2002. Section 6, The Competition Act, 2002. Retrieved from https://www.cci.gov.in/sites/default/files/cci_pdf/competitionact2012.pdf

38 [Section 3, Act.](#)

39 Section 3, Act.

40 Coyle, D. 2018. Practical Competition Policy Implications of Digital Platforms. Bennett Institute for Public Policy. Retrieved from https://www.bennettinstitute.cam.ac.uk/media/uploads/files/Practical_competition_policy_tools_for_digital_platforms.pdf

41 Picht, PG. 2019. "Competition Law for the Digital Era – An Adventurous Journey". *ILC 50*, 789–791. 6

42 [2021. A Quick Recap of WhatsApp's Privacy Policy: You will have to accept this, here's why. Indian Express. Retrieved from https://www.indianexpress.com/article/technology/social/whatsapp-heres-why-you-will-have-to-accept-the-messaging-apps-new-privacy-policy-limit-of-features-7310480/](https://www.indianexpress.com/article/technology/social/whatsapp-heres-why-you-will-have-to-accept-the-messaging-apps-new-privacy-policy-limit-of-features-7310480/)

technology platforms' business model lies in dynamic innovation, and their market boundaries keep changing accordingly. There can be multiple relevant markets for each product offering of digital services. For example, how can one define WhatsApp's market?

WhatsApp, whose initial product offering was only a messaging platform, now has many other products, including peer-to-peer money transfer services, rolled into one big platform. Daniel Mandrescu has shown that it is important to study the business model of a platform before determining the type of matching interaction of relevant customer segments. "Such an enquiry", he notes, "is not only necessary to determine the type of matching interaction but also to determine whether two or more relevant markets must be defined for a bi-or multi-lateral matching interaction."⁴³ To investigate digital markets in the past, the CCI has considered product offerings by digital firms and assessed relevant market criteria based on their substitutability in traditional markets. For example, in a case invoicing a digital taxi booking platform—Ola and its competitor Uber, the CCI defined the relevant market as the "market for radio taxi services."⁴⁴ But performing this definition of relevant market on digital platforms discounts the multi-sided platforms⁴⁵ nature of these platforms.

Moreover, multi-sided platforms deal with many different types of customers and hence, can exclude certain activities and its effects on consumer welfare. For example, Facebook offers social media services to its users free of cost, but charges advertisers for product or service announcements. Similarly, if abuse of dominance in the case of ride sharing platforms focussed on radio and taxi services markets and refused to consider other services rendered by the platform, like food delivery by Uber Eats, the effects of the multisided nature of these platforms on consumer welfare are ignored. Uber could use data from Uber Eats orders to gain an advantage in the Uber driving market. Therefore, competition law must recognise that while defining relevant markets, it is important to keep in mind the multihoming effects of platforms, and that the nature of these platforms are multisided and are interlinked to each other.⁴⁶ Mere focus on the abuse of dominant position and price distortions may only help achieve short-term ends by curbing monopoly power "then and there", a method that has been adopted by the CCI thus far. But these methods will remain reactionary quick-fixes when the objects of regulation – the platforms and the digital market-spaces themselves- are not well understood.⁴⁷ Moreover, the CCI, just like competition frameworks in other countries, assumes that only dominant firms can abuse market positions.

43 Mandrescu, D. 2018. "Applying (EU) competition law to online platforms: Reflections on the definition of the relevant market(s)". *World Competition: Law and Economics Review*, Vol. 41, No. 3, 2018, Available at SSRN: <https://ssrn.com/abstract=3271624>

44 Basu C. 2019. "Supreme Court of India Upholds Investigation against Uber". Kluwer Competition Law Blog <http://competitionlawblog.kluwercompetitionlaw.com/2019/09/18/supreme-court-of-india-upholds-investigation-against-uber/>

45 Holzweber, S. 2017. "Market Definition for Multi-Sided Platforms: A Legal Reappraisal", 40, *World Competition, Issue 4*, pp. 563-582, <https://kluwerlawonline.com/journalarticle/World+Competition/40.4/WOCO2017036>

46 A report published by the Centre on Regulation in Europe provides guidance on how to define markets and how to assess market power when dealing with two-sided platforms.. See, Paitz M. and Frank, J. 2019. "Market Definition and Market Power in the Platform Economy". *Centre on Regulation in Europe*. Retrieved from <https://cerre.eu/publications/market-definition-and-market-power-platform-economy/>

47 Sivasubramanian, A. 2021. "Regulate WhatsApp and BigTech, India's Competition Authority Needs More Teeth – and Fresh Thinking." Scroll. Retrieved from <https://scroll.in/article/990939/to-regulate-whatsapp-and-big-tech-indias-competition-panel-needs-more-teeth-and-fresh-thinking>

There may be instances where smaller firms engage in deep discounting practices, and unintentionally so, adversely affecting competition through tacit algorithmic collusion.^{48,49}

Another unique feature in the digital markets is that firms act not only as facilitators but also as service providers. In such scenarios the firms prioritise their own products over others in their marketplaces.⁵⁰ A recent investigation report by Reuters reveals how Amazon skirted the law to sell its own products in the Indian marketplace.⁵¹ While the CCI may address direct self-preferencing harms through the Competition Act, there is no provision in the Act to deal with these kinds of abuses of India's laws.

2) “CONSUMER WELFARE” FOR THE INDIAN DIGITAL MARKET ECOSYSTEM

It is not clear how India's competition regulators recognise the idea of “consumer welfare” for digital markets. Of course, safeguarding consumer interests and regulating antitrust by scrutinising monopoly power share a synergetic link, but they need to be read as two separate issues. While thinking about protecting consumer interests, what should India's competition regulators prioritise? Should they focus on economic efficiency, or ease of doing business and innovation effects, or fairness, transparency, and accountability practices? Each of these delineations can organise the regulatory ecosystem, including monitoring and compliance enforcement, for digital markets.

The regulatory body's vision and mission when it comes to regulating the digital markets is also not clear. The economist Mariana Mazzucato asserts the importance of “mission-oriented policies”.⁵² She defines them as “systemic public policies that draw on frontier knowledge to attain specific goals” and adds that “missions provide a solution, an opportunity, and an approach to address the numerous challenges”. It is crucial that there is a need for a well-defined understanding of regulatory purpose and value that will catalyse a comprehensive regulatory vision to guide regulatory responses in the Indian digital markets space. This recognition of purpose and value must then translate into instrumental constants such as a constitutionally valid legislation and an architecture to strengthen the capacity of regulatory institutions.

3) REGULATORY OVER-BREADTH AND OVERREACH

Checking monopoly power for digital markets not only involves an interaction between the government and market forces but also network effects and data dominance considerations define a monopoly as much as market share does. This is apparent in the case of social media firms, where network effects are qualified

48 OECD. 2017. [“Algorithms and Collusion: competition Policy in the Digital Age”](#)

49 “In existing literature, the possibility of collusion using algorithm has been categorized through the following – first, the computer acting as messenger; second, the hub and spoke arrangement; third, the use of computers as a predictable agent and fourth category is the use of algorithm as digital eye-optimizing performance. Chandola has shown that traditional notions of collusion are not sufficient for digital platforms.” See, Chandola, B. 2019. “Algorithms and Collusion: Has the CCI got it wrong?”. *Kluwer competition Law*. Retrieved from <http://competitionlawblog.kluwercompetitionlaw.com/2019/02/28/algorithms-and-collusion-has-the-cci-got-it-wrong/>

50 Digital Freedom Fund. 2020. “Self Preferencing and EU Competition Law”. Retrieved from https://digitalfreedomfund.org/wp-content/uploads/2020/05/5_DFF-Factsheet-Self-preferencing-and-EU-competition-law.pdf

51 Kalra, A. 2021. “Amazon Documents Reveal Company's Secret Strategy to Dodge India's Regulators”. Reuters. Retrieved from <https://www.reuters.com/investigates/special-report/amazon-india-operation/>

52 Mariana Mazzucato. 2018. “Mission-Oriented Innovation Policies: Challenges and Opportunities”. *Industrial and Corporate Change*, Volume 27, Issue 5, October 2018, Pages 803–815, <https://doi.org/10.1093/icc/dty034>

through user content and influence.⁵³ The Indian government has had several run-ins with social media firms in the past, but in January 2021,⁵⁴ a row with twitter unfolded a unique situation.

The Indian government sent multiple legal notices to twitter to suspend several twitter accounts that had links to Indian farmers' protests on agricultural laws. Twitter initially complied but reversed its decision in a few hours citing that the government's order was inconsistent with local laws. It also said that suspending these accounts "would violate their fundamental right to free expression under Indian law." The government, in response to these kinds of altercations, released the Information Technology (Intermediary Guidelines and Digital ethics Code) Rules, 2021⁵⁵ ("2021 Rules") in March 2021, to regulate social media intermediaries, over-the-top platforms and digital news services. These rules have been defined as vague, ambiguous, and unconstitutional,⁵⁶ with complaints of regulatory over-breadth and overreach. As many as five petitions have been filed in court challenging the 2021 Rules. The regulatory aspects of these rules require firms to submit and comply, rather than appropriately incentivise conduct. This has also revealed new fears about how this regulatory approach can deter the exercise of individual rights, for the current course seems to indicate that the government is attempting to eliminate the power of digital firms through its regulatory muscle, instead of creating a stable Indian internet ecosystem that incorporates independent checks and balances to monitor firms and digital competition.⁵⁷

4) TECHNO-REGULATION AS A SOLUTION TO ELIMINATE ALGORITHMIC HARMS

It is convenient to promote technology as a solution for everything, including to, ironically, eliminate harms caused by technologies. For example, in the 2021 Rules, the Indian government has mandated social media intermediaries to use automated tools to regulate online content. This is a classic example of enforcing techno-regulatory measures to what essentially is a community problem. The economist Tim Harford has a term for these kinds of solutions.⁵⁸ He calls them bionic duckweeds, "a metaphor for a glorious future technology, which might sound good – but isn't because it keeps us from acting". Automated systems, as noted elsewhere in this paper, are replete with issues of bias⁵⁹ and are classic flag bearers of algorithmic harms. Scholars argue that these tools cannot be recommended as a stock solution without clear processual, detail-oriented inputs on the types of bias, requirements for human intervention, and extensive audit arrangements to understand how algorithmic bias can harm competition. Although the 2021 Rules call for "mechanisms for appropriate oversight of measures deployed... including a periodic review of any automated tools deployed", algorithmic moderation systems (including hash-matching and predictive ML tools) are opaque, unaccountable, and poorly understood,⁶⁰

53 Yun, John M. "Overview of Network Effects & Platforms in Digital Markets". November 11, 2020. *The Global Antitrust Institute Report on the Digital Economy 2*, Available at SSRN: <https://ssrn.com/abstract=3733656> or <http://dx.doi.org/10.2139/ssrn.3733656>

54 Biswas, s. 2021. The Indian Government's War with Twitter. BBCNews. Retrieved from <https://www.bbc.com/news/world-asia-india-56007451>

55 Ministry of Electronics and Information Technology. 2021. *The Information Technology (Intermediary Guidelines and Digital Media Ethics Code)*, 2021. *PRSIndia*

56 Internet Freedom Foundation. 2021. "Latest Draft Intermediary Rules: Fixing Bigtech by Breaking Our Digital Rights?" Retrieved from <https://internetfreedom.in/latest-draft-intermediary-rules-fixing-big-tech-by-breaking-our-digital-rights/>

57 Sivasubramanian, A., Manish. 2021. "Unpacking the IT Rules 2021. *Centre for Policy Research*. Retrieved from <https://cprindia.org/news/9646>

58 Harford, T. 2020. *Why tech isn't always the answer – the perils of bionic duckweed*. Financial Times.

59 Williams, B., Brooks, C., & Shmargad, Y. 2018. "How Algorithms Discriminate Based on Data They Lack: Challenges, Solutions, and Policy Implications". *Journal of Information Policy*, 8, 78-115. doi:10.5325/jinfopoli.8.2018.0078

60 Gorwa, R., Binns, R., & Katzenbach, C. (2020). "Algorithmic Content Moderation: Technical and Political Challenges in the Automation of Platform Governance". *Big Data & Society*. <https://doi.org/10.1177/2053951719897945>

and therefore a periodic review may not be helpful in the absence of clear parameters or criteria that will articulate the role of these automated systems in such reviews.

5) DIGITAL MERGERS AND ACQUISITIONS

Traditionally, businesses are evaluated for their turnover or asset value. The idea of assets works differently in digital platforms and firms, where, in addition to their profitability and fundamentals, platforms are evaluated for their network effects and data capital.⁶¹ Echoing this view, the Competition Law Review Committee, chaired by Injeti Srinivas, submitted a report to the Ministry of Corporate Affairs in July 2019, recommending that the CCI introduce new deal value thresholds for digital markets, “since certain combinations do not meet traditional asset thresholds but may still have an effect on competition”⁶² This is in line with the established consensus that data holds capital value and can have implications for competition. While this recognition is useful, there are also loopholes in the current competition law that make room for firms to exhibit anti-competitive behaviour. This was apparent in the Jio-Facebook⁶³ deal (2020) where Facebook routed its investments into Jio through a newly formed entity, Jaadhu Holdings. By recognising that Jaadhu holdings “is not engaged in any business in India or anywhere in the world”,⁶⁴ Facebook denied all possible overlaps that would get them into trouble for anti-competitive conduct. Similarly, Reliance Industries Limited owned Jio platforms is bound to pose threats of anti-competitive behaviour owing to their network effects in addition to the fact that an elite network of other dominant big tech companies has stakes in the platform.⁶⁵ In June 2020, the CCI reviewed an investment from Facebook in Jio Platforms for potential misuse of user data, but the regulator approved this deal.⁶⁶ These kinds of deals can have enormous impacts on competition because of the amount of data capital that is vested in just these two companies.

Lina Khan, in her seminal paper, Amazon's Antitrust Paradox,⁶⁷ argues that it is not just abuse of dominance, but even structural dominance produces anti-competitive effects in digital markets. She illustrates that for these monopolies, the “willingness to sustain losses and invest aggressively at the expense of profits, coupled with its integration across sectors, has enabled it to establish a dominant structural role in the market”.⁶⁸

61 Wendy C.Y., Makoto, N., Yamana K. 2019. “Value of Data: There's No Such Thing as a Free Lunch in the Digital Economy,” Discussion papers 19022. Research Institute of Economy, Trade and Industry (RIETI).

62 Padmanabhan, A. 2020. “Reforming Competition law for the Digital Age”. Hindustan Times. Retrieved from <https://www.hindustantimes.com/analysis/reforming-competition-law-for-the-digital-age/story-vwawHpH3NrDZcCCFTE7oAl.html> PRSIndia. 2019. Report of the Competition Law Review Committee. Retrieved from <https://prsindia.org/policy/report-summaries/report-competition-law-review-committee>

63 Aryan, A., Mukul, P. 2020. “Explained: What the Jio deal means from Reliance and Facebook”. *Indian Express*.

64 Srinivas, A. 2020. “Why antitrust is a jumbo Indian problem”. *Livemint*. Retrieved from <https://www.livemint.com/news/india/why-antitrust-is-a-jumbo-indian-problem-11596375452543.html>

65 Singh, M. 2020. “Google invests \$4.5 billion in India's Reliance Jio Platforms”. *Techcrunch*. Retrieved from <https://techcrunch.com/2020/07/15/google-invests-4-5-billion-in-indias-reliance-jio-platforms/>

66 Majumdar, R. 2020. “Facebook Jio transaction wins CCI nod”. *Livemint*. Retrieved from <https://www.livemint.com/companies/news/facebook-jio-transaction-wins-cci-nod-11593047685002.html>

67 Khan, L. 2017. Amazon's Antitrust Paradox. *Yale Law Journal*. Retrieved from <https://www.yalelawjournal.org/note/amazons-antitrust-paradox>

68 Ibid p.746

A dominant role in the digital market will also mean that the company controls the “infrastructure of online commerce and the ways in which it is harnessing this dominance to expand and advantage its business ventures,”⁶⁹ thus creating anticompetitive effects. Going by this, we can argue that there is scope for Reliance to monopolise the country's digital markets as it is already dominant enough; while dominance is not a problem in itself, there is scope for the company to acquire small businesses and firms, lock innovation within its sphere of control, and fully establish a hold over the country's online commerce infrastructure. A draft Competition (Amendment) Bill, 2020, currently before the Parliament gives the CCI expanded functions to govern these types of deals, but it is not clear if that will prevent market dominance of homegrown firms.

REGULATING DIGITAL MARKETS IN INDIA: RECOMMENDATIONS

Before trying to arrive at regulatory certainty, India's competition regulators must take a step back and rediscover first principles. This means that our discourse on regulation of digital markets must shift from the narrow scaffold of economic efficiency to the oft forgotten, but vital kernel that is the regulatory spirit. Any regulatory effort to stabilise competition in India's digital markets, then, must start with

- (a) understanding the nature of these markets and the ways in which algorithms can be deployed to manipulate consumer choices
- (b) allowing for flexibility in regulations to deal with invisible and indeterminate algorithmic harms
- (c) recognising ethical issues that underpin algorithmic decision-making and enabling mechanisms to mitigate algorithms (algorithmic auditing, for example)
- (d) strengthening state capacity to investigate digital platforms.

1) A REGULATORY STRUCTURE FOCUSED ON DIGITAL MARKETS

Regulatory incapacity is a systemic problem in India. Some of our design themes reveal failures in presenting a coherent and cohesive frame for all the arms and wings of the state to execute its regulatory functions. Many regulatory bodies and departments of government are jumbled in the same regulatory universe, making similar rules while working on different goals, and steering similar agendas while colluding and still working against each other.⁷⁰ A recent example would be the case when the Securities Exchange Board of India (SEBI) and CCI locked horns on jurisdiction over credit rating agencies.⁷¹ In 2018, the CCI clashed with the Telecom Regulatory Authority of India (TRAI) over another jurisdictional conflict.⁷² These instances serve to remind us that there is a multiplicity of players, a patchwork of different regulators, who do not speak to each other in the country's regulatory universe yet frame rules in tandem, creating confusion for firms and consumers.

69 Ibid p.780

70 Rahul Singh of the National Law School University has written on Competition Law and Regulation. See, Singh.R. 2009. “The Teeter-Totter of Regulation and Competition: Balancing the Indian Competition Commission with Sectoral Regulators”. 8 WASH. U. GLOBAL STUD. L. REV. 71. Retrieved from https://openscholarship.wustl.edu/law_globalstudies/vol8/iss1/3

71 2021. “SEBI, CCI at odds over Jurisdiction of Credit Rating Agencies”. *BusinessToday*. Retrieved from <https://www.businesstoday.in/current/corporate/sebi-cci-at-odds-over-jurisdiction-of-credit-rating-agencies/story/427696.html>

72 Philipose, M. 2018. “Despite Supreme Court weighing in, Trai-CCI Friction Looks far from over. *Livemint*. Retrieved from <https://www.livemint.com/Money/bzKy3cYolJmJlWGB3MM1hN/Opinion-Despite-SC-weighing-in-TraiCCI-friction-looks-far.html>

KP Krishnan and Anirudh Burman, in their study on Indian regulators,⁷³ show that the internal motivation to improve regulatory processes within specific authorities is weak in India, and this observation applies to the competition space as well.

India lacks a sound regulatory structure for digital markets. In addition to this, there are overlaps from many draft policies, legislations, and proposed legislations. For example, the proposed authority for regulating Non-Personal Data can mandate firms to share their data with the authority to foster competition. However, similar provisions appear in the Personal Data Protection Bill 2019 (PDP Bill), where the proposed Data Protection Authority (DPA) has been vested with similar powers. The draft e-commerce policy also proposes a regulator⁷⁴ for online marketplaces with equivalent powers. Likewise, the proposed online marketplace regulator will penalise businesses for violations of the data protection framework, but the Central Consumer Protection Authority (CCPA) also has similar vested powers. Moreover, it is not clear which department will oversee and implement functions related to digital markets. Matters relating to e-commerce are investigated by the Department for Promotion of Industry and Internal Trade (DPIIT) while the Information Technology Act (2000) that drives e-commerce falls under the ambit of the MeitY. Additionally, the CCI has its own independent powers, and the Competition Amendment Bill (2020)⁷⁵ has proposed a governing body that will spearhead the drafting of a National Competition Policy (NCP).

These ambiguities get more muddled especially in digital markets where boundaries are not clearly visible. As an example, in the 2021 Rules, the government mandates a “traceability” requirement that compels social media platforms including entities like WhatsApp, Facebook, and their ilk to trace the originator of a particular message. Therefore, if companies were to comply with the 2021 Rules, they must collect additional user data to furnish user details when the government asks for it. Such an obligation only dilutes end-to-end encryption and user privacy. But on the other hand, the CCI, in its latest order on WhatsApp,⁷⁶ has spoken extensively about user privacy, the importance of user consent and the need to protect personal data. It is not clear what CCI’s probe into “exploitative conduct” really means considering these new government requirements.

In addition to regulators in India not talking to each other, different legislations and regulations also sometimes warrant different and conflicting compliance requirements. The PDP Bill provides a useful example of a way around this problem. Clause 49 of the PDP Bill empowers the DPA to consult sectoral regulators, external consultants, and experts for inputs. It is this spirit that must be absorbed by the other regulators to foster collaborations by sharing information about algorithmic harms and anti-competitive investigations. It is also important for different regulators to recognise the outer bounds of their mandate. In the Penrose Report which considers the UK competition policy, a similar point has been made about the UK’s Digital Markets Unit – “So the new digital unit’s extra-strong upfront powers must be ring-fenced tightly, to prevent regulatory creep, otherwise they will steadily spread to cover every digital sector of

73 Krishnan, P.K., Burman, A. 2019. “Statutory Regulatory Authorities: Evolution and Impact” in *Regulation in India; Design, Capacity and Performance*, Eds. Devesh Kapur, Madhav Khosla. Bloomsburyprofessional.

74 Suneja, K. 2020. “Draft ecommerce policy seeks to set up Regulator, Restrict Data Storage”. *Economic Times*. Retrieved from <https://economictimes.indiatimes.com/news/economy/policy/draft-ecomm-policy-seeks-to-set-up-regulator-restrict-data-storage/articleshow/76760134.cms?from=mdr>

75 Ministry of Corporate Affairs (Competition Section). 2020. [Competition \(Amendment\) Bill](#).

76 Singh, M. 2021. “India’s antitrust body orders probe into WhatsApp’s privacy policy”. *Techcrunch*. Retrieved from <https://techcrunch.com/2021/03/24/india-antitrust-body-orders-investigation-into-whatsapp-privacy-policy-changes/>

the economy. And since everything is digitising, that would put the entire economy at risk of replacing competition with enormous increases in red tape and bureaucracy instead.”⁷⁷

India needs a comprehensive regulatory infrastructure for her digital economy. Before she attempts this, she needs to fix the confusions that currently exist in her regulatory universe to fully streamline digital markets with clear legislations, guidelines, institutions, and policies.

2) BUILDING CAPACITY: SKILLSETS AND COMPETENCIES

The Supreme Court of India observed in a verdict that the absence of a technically competent leadership can weaken good governance.⁷⁸ Digital markets require an understanding of the mechanisations and technical design of algorithmic systems to conduct informed investigations and strengthen regulatory capacity. To understand complex and multifaceted harms such as algorithmic collusions, it is essential to build skillsets to understand the landscape that digital markets operate in. For example, the CCI in its latest order wants to check the veracity of WhatsApp's claims, but how does it plan to do this? To investigate a company's data sharing practices, the CCI needs to understand the technical design of digital systems. We do not yet have an insight into the CCI's institutional capacity.⁷⁹ Do they have technically competent bureaucrats to tackle such cases? Do they recruit AI-experts and engineers to understand big tech algorithms? These discussions never feature in any of CCI's announcements either.⁸⁰

The CCI has reached a critical point where it needs to build institutional infrastructure to: a) carry out algorithmic audits and impact assessments; b) develop tools to set up oversight mechanisms to monitor algorithms; c) to establish rigorous standards for accountability and compliance. The CMA under the Digital Markets Unit has recruited data scientists, ethicists, developers, and AI specialists to deploy new investigative techniques to recognise algorithmic harms. How can India work with the CMA to build similar capabilities?

Regulators in India will require significant training to audit algorithmic systems. This is a capacity building endeavor; regulators may not fully understand code but will need to at least be able to comprehend the effects of code. There is a vacuum in India's proposed policies, legislations, and regulations on any thinking about building capacity for algorithmic investigations. Even self-regulation rules in India do not have guidelines to encourage firms to document the technical, product and market scopes of their algorithmic systems, or explain their AI systems through explainable AI requirements. Without building capabilities and competencies it will be difficult to invoke a well-informed regulatory response to investigate algorithms.

77 Penrose, J. 2021. "Power to the People". *Gov.UK*. Retrieved from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/961665/penrose-report-final.pdf

78 *Techi Tagi Tara v Rajendra Bhandari*. 2017. SCC Online SC1165

79 India's public institutions are afflicted by weak state capacity. See Kapur, D., Mehta, B.P., Vaishnav, M(eds). 2017. "Rethinking Public Institutions in India". *Oxford University Press*

80 Sivasubramanian, A. 2021. "Regulate WhatsApp and BigTech, India's Competition Authority Needs More Teeth – and Fresh Thinking." *Scroll*. Retrieved from <https://scroll.in/article/990939/to-regulate-whatsapp-and-big-tech-indias-competition-panel-needs-more-teeth-and-fresh-thinking>

3) INSTITUTIONAL INFRASTRUCTURE FOR ALGORITHMIC AUDITS, MONITORING AND COMPLIANCE

The CCI also needs to implement monitoring and accountability mechanisms in its regulatory framework. These can include regulatory sandboxes, compliance reports from firms, and impact assessment frameworks to audit algorithms and deep neural networks. The UK's CMA has undertaken a wide variety of studies in this regard, from mystery shopping to attempting to understand how consumers use digital comparison tools when making a purchase through a website or app,⁸¹ and research papers that study personalised pricing. In contrast, studies and reports from the CCI neither discuss tacit algorithmic harms nor acknowledge the many problems in the current competition framework. In terms of market studies, there has been no major assessment study apart from the CCI's 2019 on India's e-commerce sector.⁸² Even this study focussed only on pricing harms without references to technical and academic literature, or a deep dive into profiling harms in a manner investigated by the CMA.

It is true that there are technical objections to algorithmic auditing.⁸³ What we understand as “algorithms” are complex systems, and mere auditing alone will not be sufficient to uncover algorithmic harms. This is where we beg to differ with the CMA's view that “firms should be ready to be held responsible for the outcomes of their algorithms especially if they result in anti-competitive (or otherwise illegal or unethical) outcomes.” In rare cases, firms can cultivate algorithmic harms without being fully complacent. For example, a recent study⁸⁴ demonstrated bias in Google search results but in this case the blame cannot be ascribed exclusively to Google's algorithms. While firms should be questioned and held accountable for their practices, regulators need to be mindful that algorithmic harms arise out of a complex, interactive infrastructure and because it is an arduous task to locate touch-points and identify agents causing harms, there is all the more reason to be thorough, proactive and vigilant.

4) ADDRESSING CURRENT CAPACITY GAPS

India needs a planned approach to address current capacity gaps. There are three distinct types of gaps we are dealing with here, namely gaps in a) generating new norms or upgrading old ones for anti-trust assessment; b) implementing these norms through a readjustment of institutional and behavioural practises; c) building consensus for enforcing compliance with these norms.

The first set of gaps can be addressed by setting up an independent research division under the CCI that studies the many technical infrastructures of algorithms. This research division must develop frameworks to audit firms; work with them to develop a common reporting system to document algorithmic harms. The second and third sets of gaps can only be addressed through a combination

81 Competition & Markets Authority. 2017. [Mystery Shopping Research](#)

82 Competition Commission of India. 2020. [Market study on e-commerce](#)

83 Kearns, M., Roth, A. 2020. “Ethical Algorithm design should guide technology regulation”. *Brookings*

84 Maron, D. 2018. “Science career ads are disproportionately seen by men”. *Scientific American*. Competition and Markets Authority. 2021. *Algorithms: How they can reduce competition and harm consumers*. Retrieved from <https://www.gov.uk/government/publications/algorithms-how-they-can-reduce-competition-and-harm-consumers/algorithms-how-they-can-reduce-competition-and-harm-consumers>

of enhancing human resource capabilities and novel thinking. Both implementation and enforcement have a strong accountability component too, one that demands intra- and inter-departmental reporting obligations, and constant engagement with other stakeholders such as industry bodies and citizen groups. Therefore, adding people to the government machinery addresses only part of the problem. Real capacity enhancement demands processual reforms including revamp of tracking and monitoring processes, better accountability frameworks including placing responsibility for inter-agency coordination and streamlining of existing processes.⁸⁵

5) REGULATORY APPROACHES: LESSONS FROM THE UNITED KINGDOM

India's broad response to these issues caused by technology firms has been a stock recommendation for platforms to self-regulate. The draft e-commerce policy (2020) and the 2021 Rules advocate self-regulatory measures for digital firms. An approach of self-regulation in competitive markets works on good faith but initial evidence, as indicated earlier in this paper, that firms focus on maximising profits and can potentially abuse their dominant position by overriding or skirting legislative authority. Also, soft regulatory measures are not fully comprehensive. They can promote tacit algorithmic collusion, a harm caused by a joint profit maximisation strategy put in place by competing firms that might harm consumers.⁸⁶

A rule-based, command and control approach has its own set of issues because it a) multiplies government control and power – in that it allows for the government's decision-making itself to become a 'black box';⁸⁷ b) reinforces the wrong idea that algorithmic harms are known, visible and predictable, and hence can be curtailed through mere enforcement of rules; c) stifles innovation by placing enormous regulatory burden on firms.

Both these strategies—self-regulation and rule enforcements—approach this issue from a perspective of eliminating harms as opposed to mitigating them. This vision of elimination - over - mitigation places undue expectations that can lead to negative externalities such as regulatory capture caused by under- or over-regulation. In addition, they discount representative, non-instrumental values such as transparency, accountability, and citizen participation. Algorithmic harms must be studied from the lens of human rights and democratic values than just from the perspective of economic efficiency. This is because platforms are not merely places that facilitate businesses, but are also public spaces on their own, where issues that antipodes — equality/discrimination, privacy/surveillance, free speech/disinformation — actively conflate with other transactional elements.

This means that any direction in competition policy must be towards strengthening an effective system of rights that include right to property, right to contract and rights to due legal process.⁸⁸ Case in point here is also that India does not yet have adequate protections for non-pricing harms such as algorithmic

85 Padmanabhan, A., Sivasubramanian, A. 2020. "Data Governance and AI regulation in India". *Foreign Commonwealth Development Office*.

86 OECD. 2017. "Algorithms and Collusion: Competition Policy in the Digital Age" Available at www.oecd.org/competition/algorithms-collusion-competition-policy-in-the-digital-age.html

87 Frank Pasquale: 'a system whose workings are mysterious, we can observe its inputs and outputs, but we cannot tell how one becomes the other or its use or consequences'. See Pasquale, F. 2015. "The Black Box Society: The Secret Algorithms that Control money and Information". *Harvard University Press*

88 For a broad range of disciplinary perspectives including law, public administration, applied philosophy, data science, and AI, see Yeung, K., & Lodge, M. 2019. "Algorithmic Regulation". *Oxford university Press*

discrimination to tackle discrimination in AI systems. A 2018 NITI Aayog paper⁸⁹ also noted the lack of regulation around AI in India but there is no legal infrastructure in place yet.

All these omens such as the lack of a procedural, clear, community-oriented, transparent, and accountable framework portend towards an urgent need for a radical shift in thinking about what kind of regulatory response India needs to invoke for her digital markets. India needs to locate the spirit in her regulatory decisions by outlining and envisaging regulatory purpose and values before taking the plunge into enforcing mechanisms to audit and regulate digital markets.

The CMA, in its paper on algorithmic harms, has recommended two important regulatory measures to counter algorithmic harms. The first is the development of standards to facilitate accountability and the second is an ex-ante regime overseen by a regulator of technology firms called the Digital Markets Unit. Ex-ante regulatory methods are essential, indeed, to test potential theories of harm and identify harm behaviour in a proactive manner.⁹⁰ These frameworks may achieve the desired end but such a regime's functionality rests on a proactive, universal abstraction of norms and may overwhelm other properties that may subsequently be relevant. For example, an algorithmic system that has been audited for algorithmic bias may produce other unknowable externalities.⁹¹

Standard setting⁹² as a regulatory approach, again, embed technical standards in the regulatory architecture and trigger responses that can be automatically administered, but these may not fully demand human intervention and control. Standard setting and ex-ante regulations may serve the purpose, and quickly so, but they must guard against diminishing the scope for democratic participation in evaluating and regulating harm behaviour. There are new regulatory methods that India could explore.

India could also attempt co-regulatory methods⁹³ where regulators work with stakeholders – consumers, firms, suppliers, engineers, lawyers, and ethicists – to build consensus on standards. Another approach could be to implement ethical algorithm design⁹⁴ where regulators identify behaviours that they want the algorithms to avoid and recommend that firms design their algorithms to avoid those behaviours. There is a lot to be elaborated on about these two recommendations, but the scope of this paper is to only investigate into broad details and not drill deep into narrow focus areas. Having said that, these recommendations need to be further debated and studied extensively, their implementation processes and evaluations must be firmed up, and relevant stakeholders must be consulted to design an appropriate policy response.

89 2018. "National strategy for Artificial intelligence". *NITI Aayog*

90 Tutt, A. 2017. "An FDA for Algorithms". *Administrative Law Review*, 69(1), 83-123. Retrieved from <http://www.jstor.org/stable/44648608>

91 Munro R. 2019. "Human-in-the-Loop Machine Learning". Manning Publications. Available: <https://www.manning.com/books/human-in-the-loop-machine-learning#toc>

92 New Zealand's government has implemented a set of standards for how public agencies should use the algorithms that increasingly drive decision-making by officials about every area of public life

93 The [European Commission High-Level Expert Group on AI](#) suggests that "co-regulatory approaches beyond standards can be developed, such as accreditation schemes and professional codes of ethics. Firms that invest in sound data governance, monitoring and keeping records of the behaviour and decisions of their algorithmic systems are better able to identify and mitigate risks, and to demonstrate compliance when needed. See Competition and Markets Authority. 2021. Algorithms: How they can reduce competition and harm consumers. Retrieved from <https://www.gov.uk/government/publications/algorithms-how-they-can-reduce-competition-and-harm-consumers/algorithms-how-they-can-reduce-competition-and-harm-consumers>"

94 Kearns, M., Roth, A. 2019. "The Ethical Algorithm: The Science of Socially Aware Algorithm Design". *Oxford University Press*

As the CMA notes in its report on algorithmic harms, “with clearer standards and guidance, firms may have a stronger incentive to take steps to design and build transparency and accountability processes into their algorithmic systems, instead of leaving them as afterthoughts instead of a command-and-control approach”.

CONCLUSION

India's competition regulatory space requires clear lines of accountability, state capacity, and an urgent need for knowledge capacity. The digital ecosystem is an ever-changing, evolving space. Regulations must be grounded in standard values that need to serve as guideposts, and this needs to be co-created through transparency, trust, knowledge, and extensive participation. We need more policy and legislative tools, interim remedies to address potentially abusive conducts, and new definitions of theories of harms to scrutinise digital platforms. The CCI has only been reactive thus far. Prudence and proactiveness are essential toolkits in these times where consumer harms come in undefined ways.

AUTHOR'S NOTE

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