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INDIA’S POLICY RESPONSES TO BIG TECH: AND AN EYE ON THE RISE OF ‘ALT BIG TECH’

*Smriti Parsheera**

ABSTRACT *The term ‘big tech’ offers a helpful and widely used label for describing the world’s most powerful technology companies. The challenges posed by big tech across the domains of competition, innovation, human rights, and social and political impact are real and immediate. So is the need for building more effective checks against them. India is still in the early stages of formulating its strategy on big tech, through the traditional playbook of competition, enforcement, and domain-specific regulatory interventions. But it has also adopted a more novel strategy of relying on open APIs and interoperability standards to counter the market features that enable the concentration of power in the hands of dominant tech players. The paper studies the Unified Payments Interface, the Data Empowerment and Protection Architecture, and the Open Network for Digital Commerce as examples of such technical systems. It argues that while recognising the innovation and progress of these new systems, it is also important to keep an eye on their potential to emerge as ‘alt big tech’ – systems that create new opportunities for dominance and power play that can bear significant consequences for competition, innovation, and public interest in the long run.*

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I. INTRODUCTION

Current news is awash with references to big tech's supersized ambitions,¹ their toll on privacy,² the onslaught on democracy,³ and the need for a regulatory crackdown.⁴ In most of these contexts the term 'big tech' is commonly used to describe a set of large United States-based corporations, notably, Alphabet (Google), Amazon, Meta (Facebook), and Apple that are collectively dubbed the 'GAFA' (or now 'GAMA') firms. These businesses stand out in terms of their large market capitalisation, significant user base, market power, and conduct that bears significant implications for individual rights, competitive outcomes, and democratic values.

Depending on the context, other firms like Microsoft, Twitter, Netflix, and Uber may sometimes be added to the list. Similarly, China is said to have its counterparts in the 'BATX' – Baidu, Alibaba, Tencent, and Xiaomi – firms that are often touted as its big tech response to the American technology giants. India also has its own tribe of domestic technology-driven businesses that operate using the same playbook of data aggregation, cross-sectoral linkages, acquisitions, and control. However, the general usage of the term big tech in the media and policy discourse in India is almost exclusively reserved for the foreign-owned multinational corporations described earlier.⁵

The global footprint of big tech firms and demonstrated instances of abuse of power have prompted a flurry of activities aimed at their regulation and governance. China has been in the news for what has been labelled as a

¹ 'Big Tech's Supersized Ambitions' (*The Economist*, 22 January 2022), <www.economist.com/leaders/2022/01/22/big-techs-supersized-ambitions> accessed 29 January 2022.

² Tom Chavez, Martiza Johnson and Jesper Andersen, 'Toward Data Dignity: How We Lost Our Privacy to Big Tech' (*Fortune*, 28 January 2022). <<https://fortune.com/2022/01/28/big-tech-data-privacy-ethicaltech/>> accessed 29 January 2022.

³ *Can Democracy Survive the Big Tech Onslaught?* (*Deccan Chronicle*, 28 January 2022) <www.deccanchronicle.com/opinion/op-ed/270122/can-democracy-survive-the-big-tech-onslaught.html> accessed 29 January 2022.

⁴ Richard Waters, 'Moment of Truth for Proposed Big Tech Crackdown' (*Financial Times*, 20 January 2022) <www.ft.com/content/5b3fb340-8165-4399-b54e-3ab51fa9c7d5> accessed 29 January 2022.

⁵ As an exception to this practice, Aneja and Chamuah include the Indian telecommunication giant, Reliance Jio, and the National Payments Corporation of India in their analysis of India-specific big tech entities. See Urvashi Aneja and Angelina Chamuah, *A Balancing Act: The Promise and Peril of Big Tech in India* (*Tandem Research*, 2020) <https://tandem-research.org/assets/Tandem-Research-Big_Tech_report.pdf> accessed 2 February 2022.

‘regulatory storm’ of imposing new legal requirements in areas such as competition law, privacy, and algorithmic regulation.⁶ In the US, the report of the House Committee’s Investigation on Competition in Digital Markets was followed by the appointment of big tech critic Lina Khan as the chair of the Federal Trade Commission and the introduction of a bouquet of bills seeking to control big tech’s antitrust activities.⁷ And the European Commission has adopted a new digital regulation package consisting of the Digital Services Act and the Digital Markets Act.⁸

Tackling the bigness of technology firms has also been the motivator (or feature) of several policy initiatives in India. One part of this is playing out in the domain of competition law, where we are seeing the Competition Commission of India (‘the CCI’) opt for a more proactive stance towards competition enforcement in the technology sector.⁹ Most recently, the CCI imposed penalties of Rs. 13.38 billion and 9.36 billion, respectively, on Google for anti-competitive conduct linked to its Android ecosystem and Play Store policies.¹⁰ However, the influence of big tech extends far beyond the domain of competition and market effects. Curtailing the behaviour of big tech firms has, accordingly, formed the backdrop for many other actions that are taking shape outside the domain of competition law. The governance of non-personal data, discussions around India’s e-commerce strategy and enhanced obligations for ‘significant’ players in contexts like intermediary

⁶ Martin Chorzempa, *China’s Campaign to Regulate Big Tech is More than Just Retaliation* (Nikkei Asia, 3 August 2021) <<https://asia.nikkei.com/Opinion/China-s-campaign-to-regulate-Big-Tech-is-more-than-just-retaliation>> accessed 2 February 2022; Arjun Kharpal, ‘China’s Next Regulatory Target — Algorithms, The Secret of Many Tech Giants’ Success’ (CNBC, 7 January 2022) <www.cnbc.com/2022/01/07/china-to-regulate-tech-giants-algorithms-in-unprecedented-move.html> accessed 2 February 2022.

⁷ Commentators, however, remain sceptical as to whether these proposals will actually translate into law. See Cecilia Kang and David McCabe, ‘Efforts to Rein In Big Tech May Be Running Out of Time’ *New York Times* (Washington, 20 January 2022) <www.nytimes.com/2022/01/20/technology/big-tech-senate-bill.html> accessed 3 February 2022.

⁸ European Commission, ‘The Digital Services Act Package’ <<https://digital-strategy.ec.europa.eu/en/policies/digital-services-act-package/>> accessed 18 September 2022; Council of the EU, ‘Regulating “Big Tech”: Council Agrees on Enhancing Competition in the Digital Sphere’ (November 2021) <<https://www.consilium.europa.eu/en/press/press-releases/2021/11/25/regulating-big-tech-council-agrees-on-enhancing-competition-in-the-digital-sphere/>> accessed 3 February 2022.

⁹ Anshuman Sakle and Pahari Nandini, ‘The Interaction between Competition Law & Digital and E-Commerce Markets in India’ (2020) 16(2) *Indian Journal of Law and Technology* 18; Manas Kumar Chaudhuri, Anisha Chand, Tanveer Verma and Armaan Gupta, ‘India: Overview’ in *Asia-Pacific Antitrust Review 2022* (Global Competition Review, March 2022) 114.

¹⁰ *Umar Javeed and others v. Google LLC and another*, Case No. 39 of 2018, Order dated 20 October 2022 <<https://cci.gov.in/antitrust/orders/details/1070/0>> accessed 31 October 2022; *XYZ v. Alphabet Inc and others*, Case No. 7 of 2020, Order dated 25 October 2022 <<https://cci.gov.in/antitrust/orders/details/1072/0>> accessed 31 October 2022.

liability and data protection are some examples. While mapping these broad trends, the paper also notes that despite the general grouping of certain entities as ‘big tech’, policy actions tend to be subjective and individualised, shaped by the peculiarities of different business models and a range of political, strategic, and pragmatic considerations.

In addition to the regulatory responses aimed at controlling the activities of big tech, India has adopted a novel approach to build alternative technical architectures or networks across different segments of the digital ecosystem. These systems rely on the use of open Application Programming Interfaces (‘APIs’), a mechanism that enables technical systems to directly interact with one another.¹¹ Popular examples of private sector APIs include the use of Google’s and Facebook’s authentication for logging into other websites and the aggregation and price comparison functions on travel booking sites.¹² In the case of India’s public digital systems, the deployment of open APIs is being seen in areas such as digital payments through the Unified Payments Interface (‘UPI’), electronic consent management through the Data Empowerment and Protection Architecture (‘DEPA’), and, most recently, in the field of digital commerce through the Open Network for Digital Commerce (‘ONDC’). The stated goals of these systems include encouraging openness and interoperability in digital ecosystems, empowering users, and, in the process, countering the concentration of power in the hands of dominant tech players.¹³

While policy documents often refer to the novelty and the expected gains of such technical systems,¹⁴ it is equally important to acknowledge the new opportunities of power play that they generate. In this paper, I use the term ‘alternative (alt) big tech’ to refer to the potential for dominance by these systems and the powers exercised by the entities controlling them. This

¹¹ Ministry of Communications & Information Technology, ‘Policy on Open Application Programming Interfaces (APIs) for Government of India’ (May 2015) <www.meity.gov.in/sites/upload_files/dit/files/Open_APIs_19May2015.pdf> accessed 27 May 2022.

¹² Thomas Bush, ‘5 Examples of APIs We Use in Our Everyday Lives’, (*Nordic APIs*, 10 December 2019), <<https://nordicapis.com/5-examples-of-apis-we-use-in-our-everyday-lives/>> accessed 18 September 2022.

¹³ Ministry of Commerce & Industry, ‘Shri Piyush Goyal chaired Open Network for Digital Commerce’ (*Press Information Bureau*, 13 August 2021) <<https://pib.gov.in/PressReleasePage.aspx?PRID=1745611>> accessed 20 May 2022; NITI Aayog, *Data Empowerment And Protection Architecture* (August 2020), <www.niti.gov.in/sites/default/files/2020-09/DEPA-Book.pdf> accessed 4 February 2022, 26. The paper was drafted with the support of the Indian Software Product Industry RoundTable (iSPIRT).

¹⁴ NITI Aayog, ‘Strategy for National Open Digital Ecosystems: Consultation Paper’ (February 2020) <https://static.mygov.in/rest/s3fs-public/mygov_158219311451553221.pdf> accessed on 26 May 2022. The paper was drafted with the support of Omidyar Network India and Boston Consulting Group.

deliberately provocative term serves a dual purpose. First, it is intended to capture the positioning of India's new technical systems as an alternative to the present status quo of monopolisation by a few (often foreign-based) firms. Second, it envisages the possibility of the technical systems themselves becoming the new centres of power and control in areas like digital payments, consent management, and e-commerce.

The UPI, the DEPA, and the ONDC represent examples of systems that are being rolled out through a coordinated strategy of public-private collaboration – the solutions are developed and implemented in the private sector but endorsed through state actions. This vests a new form of power in the hands of those involved in developing and implementing India's alt big tech systems. Unlike the economic strength, overt data-centric design, and early mover advantage of traditional big tech, alt big tech systems derive their main firepower from the state's role in asserting their legitimacy and desirability. Their infrastructural status, control over other network participants, and ability to set and monitor technical standards vest additional layers of power in these new systems.

The rest of the paper is organised as follows. Section 2 discusses the main characteristics of big tech as identified in the literature. These are i) market capitalisation and accompanying economic power, ii) size of the user base, iii) data intelligence, iv) infrastructural capabilities, and v) societal impact. Section 3 then presents a conceptual mapping of the different policy contexts in which concerns of 'bigness' are shaping regulatory boundaries in India. This includes areas such as competition law, obligations of 'significant' entities under various laws, and proposals for data governance. This is followed by some illustrations of how various types of strategic and pragmatic considerations, such as pressures from interest groups or the refusal to comply with government demands, also contribute to regulatory outcomes involving big tech. Next, Section 4 discusses India's new technical systems like the UPI, the DEPA, and the ONDC, some of which constitute a new type of response to counter the power of digital monopolies. Section 5 explains the rationale behind referring to these systems as 'alt big tech' and highlights the need to appreciate both the expected benefits as well as the long-term implications of such systems. Section 6 concludes with a summary of the paper's key observations.

II. WHAT ARE THE CHARACTERISTICS OF 'BIG TECH'?

Conversations around big tech are often mired in acronyms like GAFA (*Google, Apple, Facebook and Amazon*), FAANG (*Facebook, Amazon,*

Apple, Netflix and Google), and, in the case of Chinese companies, BATX (*Baidu, Alibaba, Tencent and Xiaomi*). But these are merely descriptors of the constituents of big tech. The more pertinent question is: Why is it that certain businesses have attracted this label and what is the basis for these groupings?

In a 2017 piece for *Slate*, Will Oremus explained that the use of the prefix ‘Big’ before the name of any industry, such as Big Pharma or Big Tobacco, signifies not just the size of the businesses but an accompanying sense of fear and mistrust.¹⁵ The term is, therefore, used to describe “dominant industries whose power cannot be tamed by politicians or market competition.”¹⁶ Oremus observes that the term first entered the mainstream discourse in the US around 2013, corresponding with Edward Snowden’s revelations about the National Security Agency’s surveillance tactics.¹⁷ In parallel, the growing concerns around anti-competitive practices in the tech sector, the data-extractive practices of the kind illustrated by the Facebook-Cambridge Analytica scandal, and the use of social media for political propaganda and misinformation strengthened the need for a term to capture the power and mistrust that came to be associated with the tech sector. The phrase ‘big tech’ seemed to fit the bill and gradually became the mainstream expression to describe the world’s most powerful technology companies in all the above-mentioned contexts.

The use of the term has become so commonplace that most commentators tend to presume, without explicitly defining, what constitutes big tech. However, there is a body of literature that engages more substantively with the definitional aspects of big tech.¹⁸ Drawing from this work, this Section 2

¹⁵ Will Oremus, ‘Big Tobacco. Big Pharma. Big Tech?’ (*Slate*, 17 November 2017) <<https://slate.com/technology/2017/11/how-silicon-valley-became-big-tech.html>> accessed 10 January 2022.

¹⁶ Freddie Hayward, ‘What the Term “Big Tech” Tells us About the Future of Silicon Valley Titans’ (*The New Statesman*, 16 February 2021) <www.newstatesman.com/science-tech/2021/02/what-term-big-tech-tells-us-about-future-silicon-valley-titans> accessed 10 January 2022.

¹⁷ Oremus (n 15). The Snowden leaks are said to have triggered a phase of resistance-cum-cooperation between large technology companies and government agencies on issues such as encryption and data access. On one hand, tech companies responded to state surveillance with stronger encryption offerings on their products, on the other, metadata was kept easily available for their own business use and for government access. See also Félix Tréguer, ‘Seeing like Big Tech’, in Didier Bigo, Engin Isin and Evelyn Ruppert (eds), *Data Politics: Words, Subjects, Rights* (1st edn, Routledge 2019) 145.

¹⁸ See Aneja and Chamuah (n 5); Nizan Geslevich Packin, ‘Too Big to Fail 2.0? Digital Service Providers as Cyber-social Systems’, (2018) 93(4) *Indian Law Journal* 1211; Reijer Hendrikse, Ilke Adriaans, Tobias J. Klinge and Rodrigo Fernandez, ‘The Big Techification of Everything’ (2021) 31(1) *Science as Culture* 59; Jai Vipra, ‘Big Tech and the Global Economy’ (*Focus on the Global South*, January 2021) <<https://focusweb.org/wp-content/>

discusses 5 key markers of the 'bigness' of big tech firms. These are i) market capitalisation and accompanying economic power, ii) size of the user base, iii) data intelligence, iv) infrastructural capabilities, and v) societal impact.

First, market capitalisation, which signifies the total market value of a company's shares, is one of the most widely used parameters for describing big tech.¹⁹ In 2021, seven out of the world's ten largest companies by market cap were technology players – Apple, Microsoft, Amazon, Alphabet, Facebook, Tencent, and Alibaba.²⁰ To put this in context, Apple alone had a market cap that was higher than the gross domestic product (GDP) of ninety six percent of countries.²¹ This economic power comes with the ability to diversify into new markets, to buy out emerging competitors, and to shape research and policy agendas – all of which reinforce the 'bigness' of these firms.

Second, big tech firms are characterised by the size of their user base, which commonly extends beyond international boundaries. For instance, the most popular websites in India, in terms of daily visitors and page views, are largely US-based/ owned businesses.²² The list includes the usual suspects like Google (Search and YouTube), Facebook and Instagram, Amazon, and Microsoft, in addition to others like Flipkart and Wikipedia. Large user bases combined with data-intensive business models give big tech their big data advantage.²³ This is fuelled by the extractive data policies that Shoshona Zuboff famously termed 'surveillance capitalism.'²⁴

uploads/2021/01/Big-Tech-Jan2021.pdf> accessed 29 January 2022; Parminder Jeet Singh, 'Breaking up Big Tech: Separation of its Data, Cloud and Intelligence Layers' (2020) Data Governance Network Working Paper No. 9 <https://itforchange.net/sites/default/files/add/Regulating_data_cloud_and_intelligence_-_Paper_9-21.pdf> accessed 29 January 2022.

¹⁹ Rodrigo Fernandez, Ilke Adriaans, Reijer Hendrikse and Tobias J. Klinge, *The Financialisation of Big Tech* (Centre for Research of Multinational Corporations December 2020) <www.somo.nl/the-financialisation-of-big-tech/> accessed 10 January 2022; See Vipra (n 18) for a description of leading big tech firms based on this criterion.

²⁰ Statista Research Department, 'The 100 Largest Companies in the World by Market Capitalization in 2021' (*Statista*, 5 August 2022) <www.statista.com/statistics/263264/top-companies-in-the-world-by-market-capitalization/> accessed 18 September 2022.

²¹ Omri Wallach, 'The World's Tech Giants, Compared to the Size of Economies' (*Visual Capitalist*, 7 July 2021) <www.visualcapitalist.com/the-tech-giants-worth-compared-economies-countries/> accessed 18 September 2022.

²² Top Sites in India (October, 2021). Alexa, <www.alexa.com/topsites/countries/IN>. Australia based Canva.com was the own non-US based business in the top 10 list for India.

²³ Cristian Santesteban and Shayne Longpre, 'How Big Data Confers Market Power to Big Tech: Leveraging the Perspective of Data Science' [2020] *The Antitrust Bulletin* 1.

²⁴ Shoshana Zuboff, *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power* (Public Affairs 2019).

Another way to describe this phenomenon is by using the imagery of ‘data-based intelligence’ as being at the core of the business models of big tech entities.²⁵ The capability to derive intelligence from the vast data accessible to them, therefore, becomes the third prominent characteristic of big tech firms.

Here it is worth clarifying that features like the assetisation of data, network effects, and increasing returns to scale are not unique characteristics of big tech. Rather, these have become the basic features of most businesses in the digital economy. However, what might distinguish the big tech players is the scale at which they have been able to capitalise on these features, very often due to a first-mover advantage. This first-move advantage has been discussed in contexts like that of Google’s search engine, WhatsApp’s messaging network and Amazon’s cloud computing services.²⁶ Some, however, question the first-move advantage theory because its relevance is often over-simplified or overstated.²⁷

The fourth defining criterion relates to the ability of certain platforms to act as the ‘infrastructural core’ of the digital ecosystem, creating a constellation of firms that are dependent on them.²⁸ Proponents of this view would, for instance, count Google’s map services and Facebook’s identification service as big tech. But they would exclude firms like Airbnb and Uber which essentially ride on top of this core infrastructure.²⁹ Similarly, Amazon’s control over key e-commerce infrastructure and its dominance in cloud services has led to its characterisation as an essential facility.³⁰ Nizan Geslevich Packin makes an interesting analogy between these key digital service providers and financial institutions that were regarded as ‘too big to fail’ during the 2008 global financial crisis.³¹ He observes that the size, political and financial influence, extent of vertical and horizontal integration, cyber security exposure, and overall social impact of big tech firms merit their designation as critical service providers.

²⁵ Singh (n 18).

²⁶ Subcommittee on Antitrust, Commercial, and Administrative Law, ‘Investigation of Competition in Digital Markets’, (US House of Representatives, 2020), <https://judiciary.house.gov/uploadedfiles/competition_in_digital_markets.pdf?utm_campaign=4493-519> 79, 143, 316.

²⁷ Fernando F. Suarez and Gianvito Lanzolla, ‘The Half-Truth of First-Mover Advantage’ (2005) 83(4) Harvard Business Review 121.

²⁸ José Van Dijck, Thomas Poell, and Martijn de Waal, *The Platform Society: Public Values in a Connective World* (Oxford University Press, 2018); Also see Hendrikse et al. (n 18).

²⁹ Van Dijck et al. (n 28), 15.

³⁰ Lina M. Khan, ‘Amazon’s Antitrust Paradox’ (2017) 26(3) Yale Law Journal 710.

³¹ Packin (n 18).

Finally, there is the fifth criterion of the societal impact of big tech firms. One way to understand this is through the lens of 'civic power', stemming from the role of big tech in the exercise of democratic functions.³² Prominent examples of this range from the use of social media platforms like Facebook and Twitter for online activism during the Arab Spring and the #MeToo movement.³³ They have also been used as a threat to election integrity across jurisdictions³⁴ and as a platform for information warfare during the Russian attack on Ukraine.³⁵ This inquiry can be broadened to examine the impact of big tech on 'societal sustainability'³⁶ by capturing its impact on different institutions, political systems, and civil society.³⁷ Furthermore, researchers have also highlighted the role of big tech in shaping research and ethical agendas.³⁸

Based on the above, the following emerge as some of the main features of big tech – financial resources and market power, data intelligence, infrastructural capabilities, and societal impact. The relevance of each of these characteristics would vary depending upon the policy context in which the

³² Martin Moore, 'Tech Giants and Civic Power' (Centre for the Study of Media Communication and Power, April 2016) <www.kcl.ac.uk/policy-institute/assets/cmcp/tech-giants-and-civic-power.pdf> accessed 4 February 2019. Martin Moore identifies the following 6 types of civic powers of powerful information intermediaries – (i) The power to command attention, (ii) The power to communicate news, (iii) The power to enable collective action, (iv) The power to give people a voice, (v) The power to influence people's vote, and (vi) The power to hold power to account.

³³ Bani Sapra, 'The Last Decade Showed how Social Media Could Topple Governments and Make Social Change - and it's Only Getting Crazier from Here' (*Business Insider*, 15 January 2020) <www.businessinsider.in/politics/news/the-last-decade-showed-how-social-media-could-topple-governments-and-make-social-change-and-its-only-getting-crazier-from-here/articleshow/73259561.cms> accessed 16 May 2022.

³⁴ Adrian Shahbaz and Allie Funk, 'Digital Election Interference', (*Freedom House*, 2019) <<https://freedomhouse.org/report/freedom-on-the-net/2019/the-crisis-of-social-media/digital-election-interference>> accessed 16 May 2022.

³⁵ Collette Snowden, 'Guns, Tanks and Twitter: How Russia and Ukraine are Using Social Media as the War Drags on', (*The Conversation*, 5 April 2022) <<https://theconversation.com/guns-tanks-and-twitter-how-russia-and-ukraine-are-using-social-media-as-the-war-drags-on-180131>> accessed 16 May 2022.

³⁶ Bernard Arogyaswamy, 'Big Tech and Societal Sustainability: An Ethical Framework' (2020) 35 *AI & Society* 829.

³⁷ Commentators have also documented different facets of big tech's mission creep problem with resulting implications for other key sectors, including labour, health, finance, agriculture, and education. See Michael Kwet, 'Digital Colonialism: The Evolution of US Empire' (*TNI*, March 2021) <<https://longreads.tni.org/digital-colonialism-the-evolution-of-us-empire>> accessed 4 February 2019; '21 Takes on Big Tech from 2021' (*DataSyn*, 16 December 2021) <https://datasyn.substack.com/p/2021-versus-big-tech?r=wx43p&utm_campaign=post&utm_medium=web> accessed 4 February 2022.

³⁸ Meredith Whittaker, 'The Steep Cost of Capture' (2021) 28(6) *ACM Interactions* 50; Mohamed Abdalla and Moustafa Abdalla, 'The Grey Hoodie Project: Big Tobacco, Big Tech, and the Threat on Academic Integrity' in 'Proceedings of the 2021 AAAI/ACM Conference on AI, Ethics, and Society' (ACM, 2021).

test of bigness is being deployed. Further, as noted by Birch and Cochrane, it would be incorrect to regard big tech as a monolith; each of its constituents is an independent actor governed by its strategic motivations.³⁹ By extension, regulatory responses to big tech are also shaped by various strategic and political considerations with seemingly similarly placed actors sometimes being treated differently. I offer some examples of this in the next Section. But before that Section 3 presents a mapping of some of the key policy responses toward big tech in India.

III. MAPPING INDIA'S POLICY RESPONSES

In the last decade, India has adopted several policy initiatives that appear to be geared towards reigning in the conduct of big tech. The use of the phrase 'appear to be' here is deliberate as the term 'big tech' itself is rarely used in the policy documentation. But based on examples seen in contexts like intermediary regulation, data governance, and e-commerce policies, I note that the regulatory actions broadly mirror the popular understanding of big tech as a set of large American corporations. Policy engagements with Chinese tech entities, on the other hand, lie more clearly in the domain of strategic and security actions. Examples include the banning of a large number of Chinese apps, including the popular social media app TikTok (ByteDance)⁴⁰ post the Galwan Valley clash of 2020, and the exclusion of Huawei and ZTE from India's 5G trials.⁴¹

The mapping exercise that follows relies on cases in which the constituents of big tech (as described earlier) have either been the target of direct regulatory actions or have been mentioned as examples while making a case for regulation. I discuss 4 broad themes or types of regulatory actions in the Indian policy context – i) addressing anti-competitive conduct, ii) enhanced obligations for 'significant' players, iii) data control, and iv) general compliance with laws. This is not an exhaustive list. For instance, policy thinking on the regulation of digital players, which, by implication, includes big tech,

³⁹ Kean Birch and D. T. Cochrane, 'Big Tech: Four Emerging Forms of Digital Rentiership', (2022) 31(1) *Science as Culture* 44.

⁴⁰ In total about 300 Chinese-origin apps and their proxies have been hit by bans issued by the Indian government since 2020. See Aashish Aryan and Soumyarendra Barik, 'Explained: Why did the govt ban more China-linked apps?' *The Indian Express* (New Delhi, 15 February 2022) <<https://indianexpress.com/article/explained/explained-why-govt-ban-more-china-apps-7772982/>> accessed 16 May 2022.

⁴¹ Aman Grover and Shivangi Mittal, 'Chinese Firms Left Out of 5G Trials in India but Modi Govt Played Fair. Here's How' (*The Print*, 25 May, 2021) <<https://theprint.in/opinion/chinese-firms-left-out-of-5g-trials-in-india-but-modi-govt-played-fair-heres-how/664638/>> accessed 2 February 2022.

is also taking place in many other fields like taxation, consumer protection, and regulation of over-the-top services. But all of these are not within the scope of this paper.

A. Addressing anti-competitive conduct

The rise of digital monopolies with accompanying practices of self-preferencing by platforms, the imposition of unfair conditions, and exclusive dealing arrangements have led to several complaints against big tech before the CCI. For instance, the CCI recently found Google to be indulging in the abuse of dominance in cases involving the pre-installation of Google's proprietary apps on its Android platform and for offering a competitive advantage to its own payment services on the Play Store.⁴² Apple is also facing a similar investigation in relation to its app store policies.⁴³

In the e-commerce space, the CCI is investigating allegations of exclusive arrangements, deep-discounting and preferential listing by Amazon and Flipkart, the two largest online marketplaces in India.⁴⁴ It has also initiated an investigation against WhatsApp for the changes announced to its privacy terms in 2020.⁴⁵ This case is significant in that it is probably the first occasion where the CCI has taken suo moto action against a digital player (all the other investigations were in response to third-party complaints). Moreover, the issues in the case lie at the intersection of competition policy and data governance issues, an area that the CCI has shied away from traversing in the past.⁴⁶

In all the instances cited above, the CCI has found *prima facie* evidence of anti-competitive conduct and referred the matter to a more detailed investigation by its Director General. This represents a shift from its earlier decisional practice where complaints against tech sector players rarely made it

⁴² *Umar Javeed and others v. Google LLC and another and XYZ v. Alphabet Inc and others* (n 10).

⁴³ *Together We Fight Society v Apple Inc.* 2021 SCC OnLine CCI 62.

⁴⁴ *Delhi Vyapar Mahasangh v Flipkart Internet (P) Ltd* 2020 SCC OnLine CCI 3.

⁴⁵ *Updated Terms of Service and Privacy Policy for WhatsApp Users, In re* 2021 SCC OnLine CCI 19.

⁴⁶ *Vinod Kumar Gupta v WhatsApp Inc* 2017 SCC OnLine CCI 32. This case related to the data sharing arrangement between Facebook and WhatsApp. The CCI held WhatsApp to be a dominant player in the market for app-based instant messaging services but did not find it to be indulging in abuse of dominance. See also, Smriti Parsheera, 'WhatsApp's Privacy Terms: What Competition Commission Must Note' (*The Quint*, 18 February 2021) <<https://www.thequint.com/voices/opinion/whatsapp-change-in-privacy-terms-what-it-means-dominance-abuse-competition-law#read-more>> accessed 4 February 2022.

to the stage of detailed investigation.⁴⁷ The reasoning given for this included concerns of stifling innovation through premature intervention in nascent technology-driven markets.⁴⁸ The order passed by the CCI against Google in 2018 was a notable exception to this trend.⁴⁹ The case related to Google's abuse of dominance in its general web search services to limit user choice, the setting of fixed position for Google-owned results, and the imposition of restrictions on search syndication partners. The CCI found Google to violate Indian competition law on several of these counts. While I have previously criticised the order for not going far enough in terms of its rigour and consequences, the case is significant for marking the beginning of the CCI's engagement with big tech.⁵⁰ Reportedly, the CCI is now planning to create a 'Digital Markets and Data Unit' for effectively dealing with anti-competitive practices in the tech sector.⁵¹

In addition to these enforcement actions, there has also been some debate around the legal changes that may be required to better regulate competition in this area. The report of the Competition Law Review Committee (CLRC) constituted by the Ministry of Corporate Affairs included a chapter dedicated to competition issues in 'technology and new age markets.'⁵² The CLRC's overall view was that the Competition Act, 2002, already offers sufficient scope to cover several practices seen in online markets, like the use of non-cash considerations, algorithmic collusion, and data and network effects, as factors for determining dominance.

The committee, however, felt that there was a need to look at new parameters like 'size of the transaction' and 'deal value' while considering mergers and acquisitions in the digital sector. This is because the existing asset and turnover-based thresholds are often inadequate to capture the competition concerns that may arise from transactions among digital players. Facebook's

⁴⁷ Smriti Parsheera, Ajay Shah and Avirup Bose, 'Competition Issues in India's Online Economy' (2017) NIPFP Working Paper No. 194 <www.nipfp.org.in/media/medialibrary/2017/04/WP_2017_194.pdf> accessed 4 February 2022.

⁴⁸ *All India Online Vendors Assn v Flipkart India (P) Ltd* 2018 SCC OnLine CCI 97.

⁴⁹ *Matrimony.com Ltd v Google LLC* 2018 SCC OnLine CCI 1.

⁵⁰ Smriti Parsheera, 'CCI's Order Against Google: Infant Steps or a Coming-of-age Moment?' (*The LEAP Blog*, 22 February 2018) <<https://blog.theleapjournal.org/2018/02/ccis-order-against-google-infant-steps.html>> accessed 4 February 2022.

⁵¹ Press Trust of India, 'Parliamentary Panel Summons Tech Giants to Discuss Competitive Conduct' *Business Standard* (New Delhi, 29 April 2022) <https://www.business-standard.com/article/current-affairs/parliamentary-panel-summons-tech-giants-to-discuss-competitive-conduct-122042801063_1.html> accessed 24 May 2022.

⁵² Ministry of Corporate Affairs, *Report of the Competition Law Review Committee* (2019) <www.mca.gov.in/Ministry/pdf/CLCReport_18112019.pdf> accessed 4 February 2022.

acquisition of WhatsApp is a notable case in point.⁵³ The Competition Law (Amendment) Bill, 2022 now seeks to address this issue through the introduction of a deal value threshold of Rupees twenty billion involving a party that has substantial business operations in India.⁵⁴ Mergers and acquisitions that meet this threshold will have to be notified to the CCI for the assessment of potential anti-competitive effects. In addition to the proposed changes to competition law, the government's proposal to replace the Information Technology Act, 2000 with a new law, being referred to as the 'Digital India Act', may also have a direct bearing on big tech. The proposed law will reportedly contain specific provisions to check the gate keeping role of big tech players.⁵⁵

In another notable development, in 2020, the CCI released a market study on competition in the e-commerce sector.⁵⁶ The study was built on information gathered from surveys, deliberations, and written submissions. It focused mainly on the practices of online marketplaces, online travel agents and online food delivery services. The CCI's report did not name any particular entities but it is clear that the dominant players in the markets under study would not only include some of the traditional big tech firms but also players beyond that. For instance, this would include food delivery firms like Zomato and Swiggy and travel booking operators like MakeMyTrip, all of which subsequently became the subject of investigations by the CCI.⁵⁷

Competition law's relevant market-centric approach to examining anti-competitive conduct in the digital sector has to begin with an unpacking of the different layers of the ecosystem and locating the specific market in which competition issues are to be studied. It ensures that any determination of dominance necessarily has to be context-specific, taking into account

⁵³ See Rahul Bajaj, 'Towards a Framework for Scrutinizing Combinations in the Digital Market – A Roadmap for Reform' (Vidhi Centre for Legal Policy, 7 January 2022) <<https://vidhilegalpolicy.in/research/towards-a-framework-for-scrutinizing-combinations-in-the-digital-market-a-roadmap-for-reform/>> accessed 4 February 2022.

⁵⁴ The Competition Law (Amendment) Bill 2022, s 6.

⁵⁵ Deeksha Bhardwaj, 'India considers EU-like laws to check Big Tech dominance' (*Hindustan Times*, 23 August 2022) <<https://www.hindustantimes.com/india-news/india-considers-eu-like-laws-to-check-big-tech-dominance-101661190421041.html>> accessed 31 October 2022.

⁵⁶ Competition Commission of India, 'Market Study on E-commerce in India: Key Findings and Observations' (8 January 2020) <www.cci.gov.in/images/marketstudie/en/key-findings-and-observations1653299843.pdf> accessed 16 May 2022.

⁵⁷ See *Federation of Hotel & Restaurant Associations of India v MakeMyTrip India (P) Ltd* 2021 SCC OnLine CCI 12; *National Restaurant Assn of India v Zomato Ltd* 2022 SCC OnLine CCI 22 <<https://www.cci.gov.in/antitrust/orders/details/6/0>> accessed 16 September 2022.

product/service-specific features as well as geographical aspects.⁵⁸ This case-by-case analysis function of competition law is, therefore, neither designed to bring about any kind of sweeping actions against an entire sector nor targeted at big tech in general. Further, competition law remedies are also limited by their primary focus on the economic aspects of big tech's dominance while ignoring the broader political and societal implications. But, as elaborated in the previous section, the key features of big tech firms and concerns emanating on account of those features extend beyond the remit of competition enforcement. Competition law remedies for big tech, therefore, need to be accompanied by other types of policy initiatives, some of which are elaborated below.

B. Enhanced Obligations for 'Significant' Players

There are at least 3 examples of ex-ante regulatory proposals/actions in India that seek to impose enhanced obligations on 'significant' firms. The parameters for assessing significance in each context would invariably include big tech.

The first example relates to the obligations for 'significant social media intermediaries' under the new intermediary rules notified under the Information Technology Act, 2000 (IT Act) in 2021.⁵⁹ Section 79(1) of the IT Act, exempts intermediaries like telecom service providers, search engines, and social media firms from liability for any third-party information on their platforms as long as the intermediary does not play a role in managing or modifying that information. As per the new rules, a significant intermediary that has more than a specified number of registered users in India⁶⁰ (currently set at 5 million)⁶¹ will have to adhere to an additional set of conditions to benefit from this exemption. These additional obligations include the appointment of a nodal contact for law enforcement requests, a resident grievance redressal officer, and ensuring traceability of the originator of a message in case of significant messaging services.

The user base-centric criterion implies that the IT Rules cover all entities that meet this threshold irrespective of whether they are popularly considered as big tech or not. For instance, the list of significant intermediaries includes the Indian social media platform Koo and messaging app ShareChat. Yet, it

⁵⁸ The Competition Act 2002, ss 2(r), (s), and (t).

⁵⁹ Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules 2021 (IT Rules).

⁶⁰ Ministry of Electronics and Information Technology, S.O. 942(E). (Notified on 25 February 2021).

⁶¹ IT Intermediary Rules (n 59) r 2(v).

would appear that the foreign-based big tech intermediaries, which dominate verticals like search, social media, and messaging, might have been on top of the government's mind while framing the new rules. This is illustrated by requirements relating to having locally resident officials in India, which are particularly relevant to multinational firms. In his statement announcing the rules, the then Information Technology Minister, Ravi Shankar Prasad, also specifically highlighted the respective user bases of WhatsApp, YouTube, Facebook, Instagram and Twitter while explaining the need for more accountability from significant intermediaries.⁶² The big tech link was made more explicit in the amendments brought about by the government to the new IT Rules in June 2022.⁶³ The changes, which include the strengthening of grievance redress mechanisms by intermediaries, were said to be targeted at removing "some of the infirmities and gaps that exist in the current rule vis-à-vis Big Tech platform[s]."⁶⁴

The next set of developments relate to the proposals around the introduction of a comprehensive data protection law in the country. The legislative proposals in this regard include the Personal Data Protection Bill, 2019 (DP Bill, 2019) which was withdrawn by the government in August, 2022 and has now been replaced with the draft Digital Personal Data Protection Bill, 2022 (DP Bill, 2022).⁶⁵ Like its predecessor, the DP Bill, 2022 proposes certain additional obligations on 'significant data fiduciaries' over and above the general requirements for all data controlling entities. Compared to the intermediary rules, the DP Bill allows for greater discretion in the hands of the government in determining who would be treated as a significant player. It lists factors like volume and sensitivity of personal data processed and risk of harm from data processing that are to be taken into account while assessing the 'significance' of any entity or a class of entities.⁶⁶ Further, taking into account the recommendations of the Joint Parliamentary Committee that reviewed the DP Bill, 2019,⁶⁷ the DP Bill, 2022 also includes criteria like

⁶² Press Information Bureau, 'Union Ministers Prakash Javadekar and Ravi Shankar Prasad Address a Press Conference' (YouTube, 25 February 2021) <www.youtube.com/watch?v=H0eqWuj84-0> accessed 20 January 2022.

⁶³ Ministry of Electronics and Information Technology, Government of India, Press note dated June 6 2022, <<https://www.meity.gov.in/writereaddata/files/Press%20Note%20dated%206%20June%2022%20and%20Proposed%20draft%20amendment%20to%20IT%20Rules%202021.pdf>> accessed 8 September 2022.

⁶⁴ *ibid.*

⁶⁵ The Personal Data Protection Bill 2019 (DP Bill 2019); Digital Personal Data Protection Bill, 2022 (DP Bill 2022).

⁶⁶ DP Bill 2022 s 11.

⁶⁷ Report of the Joint Committee on the Personal Data Protection Bill 2019 (Lok Sabha Secretariat, 16 December 2021) <<http://164.100.47.193/lsscommittee/Joint%20Committee%20on%20the%20Personal%20Data%20Protection%20Bill,%20>

potential impact on India's sovereignty, risk to electoral democracy, security and public order. The obligations that would flow from being classified as a significant entity included requirements such as the appointment of privacy officers, the conduct of data protection impact assessments and privacy audits.

Lastly, the proposals for the regulation of Non-Personal Data (NPD) formulated by the Kris Gopalakrishnan Committee also contain specific requirements for designated large data businesses.⁶⁸ The recommendations suggest that significant data-controlling entities, demarcated based on factors like gross revenue, number of users, and revenue from consumers, will need to register themselves as data businesses before the proposed Non-Personal Data Protection Authority. This sets the path for mandatory disclosure of the metadata held by these entities and sharing of certain categories of data with the government and others acting in public/community interest.

C. Data Control

Both the data governance initiatives discussed above seek to define the terms on which businesses (and the government) can process data and create a framework for sharing this data with others. The NPD Committee's report, in particular, mentions businesses like Facebook, Google, and Amazon to illustrate the 'imbalance in data and digital industry', which lies at the core of its data sharing recommendations.⁶⁹ Claims about the economic value of data and the power and significance enjoyed by a 'handful of companies' controlling it have also been used as a framing device in other contexts. This includes the draft e-commerce policy that was put out by the Department for Promotion of Internal Industry and Trade in 2019.⁷⁰ Without naming any specific entities, the draft e-commerce policy spoke of the data controlling and gate keeping functions of large social media platforms and search engines, and used that as a basis for the assertion of data sovereignty.

Yet another dimension of this debate relates to the challenges faced by law enhancement agencies in gaining access to data that is under the control of

2019/17_Joint_Committee_on_the_Personal_Data_Protection_Bill_2019_1.pdf> accessed 16 May 2022.

⁶⁸ Kris Gopalakrishnan et al., *Draft Report by the Committee of Experts on Non-Personal Data Governance Framework* (16 December 2020) <https://static.mygov.in/rest/s3fs-public/mygov_160975438978977151.pdf> accessed 4 February 2022.

⁶⁹ Committee of Experts on Non-Personal Data (n 68) 40.

⁷⁰ Department for Promotion of Internal Industry and Trade, 'Draft National e-Commerce Policy: India's Data for India's Development' (February 2019) <https://dpiit.gov.in/sites/default/files/DraftNational_e-commerce_Policy_23February2019.pdf>, accessed 20 January 2022.

foreign entities. This is a commonly cited argument for imposing data localisation norms.⁷¹ For instance, the report of the Justice Srikrishna-led Expert Committee on data protection identified the foreign ownership of information intermediaries like Facebook, Google, Amazon, and Uber, its impact on the local data economy, and concerns of foreign surveillance as grounds for data localisation.⁷² All these developments point toward a trend of the state seeking greater control over the data that is currently seen as being locked up in the hands of dominant tech players. By extension, attempts to democratise data access through data pooling and sharing initiatives, are being designed with an express intention to exclude big tech players. This has, for instance, been made explicit in the discussions around the data pools to be created under the government's draft National Data Governance Framework, which will not be accessible to big tech.⁷³

D. General Compliance with Laws

The large user base of big tech entities and their societal impact often leads to their interactions with courts and policymakers concerning the enforcement of various laws. For instance, intermediaries have been involved in actions before the Indian courts for the implementation of laws relating to hate speech, child pornographic material, non-consensual sexual content, defamatory content, copyright violations, etc.⁷⁴ On some occasions, the foreign ownership of large intermediaries and limited local decision-making presence has been noted to be a barrier to securing cooperation for compliance with local laws. The IT Rules and Data Governance proposals discussed earlier are partially geared towards addressing these concerns of limited accountability through requirements of local presence and registration of large operators.

In addition to government agencies and courts, Parliamentary Committees have also been a site for demanding better accountability from big tech.

⁷¹ Rishab Bailey and Smriti Parsheera, 'Data Localization in India: Paradigms and Processes', (2021) 9 CSI Transactions on ICT 137.

⁷² Committee of Experts under the Chairmanship of Justice BN Srikrishna, *A Free and Fair Digital Economy Protecting Privacy, Empowering Indians* (2018) <https://www.meity.gov.in/writereaddata/files/Data_Protection_Committee_Report.pdf> accessed 18 September 2022, 92.

⁷³ Akhil Sur, 'Big Tech Won't be Beneficiary of National Data Governance Framework: MeitY' (*Money Control*, 14 June 2022) <www.moneycontrol.com/news/business/big-tech-wont-be-beneficiary-of-national-data-governance-framework-meity-8686881.html> accessed 8 September 2022.

⁷⁴ Varun Sen Bahl, Faiza Rahman and Rishab Bailey, 'Internet Intermediaries and Online Harms: Regulatory Responses in India' (2020) Data Governance Network Working Paper 06 <https://www.datagovernance.org/files/research/BahlRahmanBailey_-_Paper_6-2.pdf> accessed 20 January 2022.

Recently, the Parliamentary Standing Committee on Finance directed that it would be calling companies like Google, Apple, Facebook, Twitter, Amazon, and Microsoft to discuss the competition challenges associated with digital markets.⁷⁵ Some of these entities have also been summoned in the past for hearings before the Parliamentary Standing Committee on Information Technology on the issue of misuse of social media platforms.⁷⁶ Another Parliamentary panel that made recommendations on the monitoring and take down of child pornographic content on social media had engaged with the representatives of these companies along with those of others like TikTok and ShareChat.⁷⁷

While outlining the general trends in terms of India's policy responses, it is worth noting that actual actions involving big tech are often subjective and individualised in nature. In other words, such actions are shaped not only by general notions of 'bigness' but by a range of other political, strategic, and pragmatic considerations. The use of the terms 'political' or 'strategic' here captures all sorts of external considerations, power equations, and interest groups that may play a part in shaping regulatory enforcement actions or other types of discretionary outcomes. The abovementioned ban of a large number of Chinese apps is a clear example along with the 2 other instances discussed below.⁷⁸

The first example relates to the political-economy forces that resulted in the use of foreign direct investment (FDI) policy as a type of ex-ante competition intervention to reshape the business models of companies like Amazon and Walmart-owned Flipkart.⁷⁹ The FDI norms introduced through Press Note No. 2 of 2018 restricted e-commerce marketplaces with foreign investment from owning the inventory to be sold on their platform or influencing

⁷⁵ Press Trust of India (n 51).

⁷⁶ IANS, 'Parliamentary Committee on IT Summons Google, Facebook on June 29' (*Business Standard*, 28 June 2021) <www.business-standard.com/article/technology/parliamentary-committee-on-it-summons-google-facebook-on-june-29-121062800560_1.html> accessed 20 January 2022.

⁷⁷ Jairam Ramesh et al., *Report of the Adhoc Committee of the Rajya Sabha to Study the Alarming Issue of Pornography on Social Media and its Effect on Children and Society as a Whole* (2020) <https://rajyasabha.nic.in/rsnew/Committee_site/Committee_File/ReportFile/71/140/0_2020_2_16.pdf> accessed 2 February 2020.

⁷⁸ The reasons given for the ban included data security and privacy considerations, which included mining and access of the data by those acting against India's national security and defence interests. See Ministry of Electronics & IT, 'Government Bans 59 mobile apps which are prejudicial to sovereignty and integrity of India, defence of India, security of state and public order' (*Press Information Bureau*, 29 June 2020) <<https://pib.gov.in/PressReleaseDetailm.aspx?PRID=1635206>> accessed 26 May 2022.

⁷⁹ Ministry of Commerce & Industry, 'E-Commerce Business Model' (*Press Information Bureau*, 11 December 2019) <<https://pib.gov.in/Pressreleaseshare.aspx?PRID=1595850>> accessed 2 February 2022.

sale prices in any manner.⁸⁰ Although aimed at creating a level playing field in the e-commerce sector, the choice of FDI rules to introduce these conditions has been questioned for creating an uneven playing field between foreign and domestic firms.⁸¹ Notably, these developments come at the back of long-standing political pressures by domestic industry groups like the All India Online Vendors Association, the Confederation of All India Traders, and the Swadeshi Jagran Manch to safeguard small vendors from the exclusionary and predatory practices of big e-commerce tech platforms.⁸²

Using the FDI policy as a regulatory tool meant that the treatment was targeted not just at the type of conduct in question but also at the politics of who owned those entities. Recently, the Parliamentary Committee on Promotion and Regulation of E-Commerce in India also took note of this issue and called for a holistic framework to govern anti-competitive practices in the e-marketplace business “irrespective of the marketplace being funded by foreign or domestic entities.”⁸³

The next example is about the government's selective and aggressive enforcement of the Intermediary Rules against Twitter soon after these rules came into effect. This action, which included police raids at Twitter's office, came about in the context of the government's publicly expressed displeasure against the attachment of a ‘manipulated media’ tag on tweets put out by members of the ruling political party.⁸⁴ Reports revealed that Twitter's interim compliance status on requirements of having designated

⁸⁰ Department of Industrial Policy and Promotion, Ministry of Commerce and Industry, ‘Press Note 2 of 2018 Review of Policy on Foreign Direct Investment in e-Commerce’ (26 December 2018) <www.dpiit.gov.in/sites/default/files/pn2_2018.pdf> accessed 20 September 2022.

⁸¹ World Bank, *World Development Report 2021: Data for Better Lives* (March 2021), <www.worldbank.org/en/news/press-release/2021/03/24/stronger-data-systems-needed-to-fight-poverty>, accessed 4 February 2022, 235; Anand Raghuraman, *E-Commerce Policy for a New Digital India*, (Atlantic Council, 19 April, 2022) <www.atlanticcouncil.org/in-depth-research-reports/issue-brief/e-commerce-policy-for-a-new-digital-india/>, accessed 16 May 2022.

⁸² S. Shanthi, ‘Amazon, Flipkart Vs CAIT: A Timeline Of The Row’ (*Entrepreneur India*, 20 December 2021) <www.entrepreneur.com/article/403672> accessed 19 May 2022; Press Trust of India, ‘MNC E-commerce Giants Violating FDI Norms: CAIT’ (*Economic Times Retail*, 15 March 2022) <<https://retail.economictimes.indiatimes.com/news/e-commerce/mnc-e-commerce-giants-violating-fdi-norms-cait/90218996>> accessed 19 May 2022.

⁸³ Department related Parliamentary Standing Committee on Commerce, ‘Promotion and Regulation of E-Commerce in India (172nd Report)’, (June 2022) <https://rajyasabha.nic.in/rsnew/Committee_site/Committee_File/ReportFile/13/159/172_2022_6_14.pdf> accessed 8 September 2022, 5.

⁸⁴ Yuthika Bhargava, ‘Government Asks Twitter to Remove ‘Manipulated Media’ Tag from Tweets Related to ‘Congress Toolkit’” *The Hindu* (New Delhi, 21 May 2021) <www.thehindu.com/news/national/government-asks-twitter-to-remove-manipulated-media-tag-from-tweets-related-to-congress-toolkit/article34615696.ece> accessed 20 February 2022.

local employees under the Intermediary Rules was similar to that of others like Google and WhatsApp.⁸⁵ Yet there was a stark difference in how the compliance status of these companies was treated by the government with Twitter seemingly being singled out for reasons that went beyond its immediate acts of delay in compliance with the new rules. The company also attracted political ire for the temporary suspension of the Twitter account of the then Information Technology Minister, Ravi Shankar Prasad, due to a copyright-related issue.⁸⁶

The above discussion reveals that India is seeing a lot of developments aimed at asserting greater regulatory control over the technology sector. While not all of this is explicitly targeted at big tech, the names of big tech firms often come up as examples while discussing the need for, or application of, regulatory interventions. This seems logical given the scale and market power of these firms, which makes them obvious targets of actions aimed at controlling anti-competitive activities and regulating other economic and social consequences in the digital sphere. Further, it is also clear that policy actions tend to be subjective and individualised, shaped by the peculiarities of different business models and a range of political, strategic, and pragmatic considerations. This can sometimes lead to particular entities being treated differently from other similarly placed actors, including other big tech players.

Having discussed the 4 broad types of policy responses influencing the regulation of big tech, I now turn to discuss the fifth type of response that involves the use of technical architectures to counter the status quo of dominance and control in different segments of the digital ecosystem.

⁸⁵ Aditi Agrawal, 'From Google to Whatsapp, and Twitter to Koo, Assessing the Compliance Status of Intermediaries' (*Forbes India*, 17 June 2021) <www.forbesindia.com/article/take-one-big-story-of-the-day/from-google-to-whatsapp-and-twitter-to-koo-assessing-the-compliance-status-of-intermediaries/68531/1> accessed 20 February 2022; Aditi Agrawal, 'The Woes and Woes of Twitter in India' (*Forbes India*, 30 June 2021) <www.forbesindia.com/article/special/the-woes-and-woes-of-twitter-in-india/68851/1> accessed 20 February 2022.

⁸⁶ Vivek Punj, 'Twitter Blocks Ravi Shankar Prasad's Handle over Violation of Copyright Norms; Unblocks Later' (*Live Mint*, 26 July 2021) <www.livemint.com/news/india/twitter-blocks-ravi-shankar-prasad-s-handle-over-violation-of-copyright-norms-11624616188732.html> accessed 18 September 2022; Department Related to parliamentary Standing Committee on Commerce, 'Promotion and Regulation of E-Commerce in India (107th Report)' (Rajya Sabha Secretariat, June 2022) <https://rajyasabha.nic.in/rsnew/Committee_site/Committee_File/ReportFile/13/159/172_2022_6_14.pdf> accessed 8 September 2022.

IV. COUNTERING POWER THROUGH TECHNICAL ARCHITECTURES: RISE OF 'ALT BIG TECH'

In the last decade, India has seen the emergence of a new model of digital governance that relies on the use of open API-based solutions to implement what is often described as India's open digital infrastructure.⁸⁷ These digital infrastructure projects can broadly be classified under 2 heads. The first consists of projects that are implemented and controlled directly by the state, as seen in the case of Aadhaar and the Ayushman Bharat Digital Mission in the health sector. The second category, which is the focus of this Section, consists of architectures or networks that are actively backed by the state but are controlled by industry-owned not-for-profit organisations set up for that purpose. I discuss the NPCI's UPI system, the DEPA consent management architecture, and the latest ONDC initiative in the e-commerce sector as examples of this model.

A. An Introduction to the Technical Architectures

The NPCI was established in 2008 as a private not-for-profit company to create enabling infrastructure for the banking and payment systems in India.⁸⁸ It is a joint initiative of the Reserve Bank of India ('RBI') and the Indian Banks' Association and is largely owned by banks although some non-bank payment operators have recently been included as smaller shareholders.⁸⁹ The UPI platform, which facilitates instant interbank payments, is one of NPCI's key offerings.⁹⁰ UPI has seen phenomenal growth in the last few years – it saw a peak of 5.58 billion monthly transactions in April 2022.⁹¹ This progress is often attributed to the convenience, interoperability, and outreach of the platform.⁹² Several big tech players like Google, WhatsApp, and Amazon have been authorised to act as third-party application providers in the UPI system. This means that they can connect with the UPI system

⁸⁷ NITI Aayog (n 14).

⁸⁸ 'An Introduction to NPCI and its Various Products' (NPCI) <www.npci.org.in/who-we-are/about-us> accessed 4 February 2022.

⁸⁹ 'Equity Shareholding Pattern as on 31st August 2022 (NPCI, 2022)' <www.npci.org.in/PDF/npci/corporate-governance/shareholding-pattern.pdf> accessed 4 February 2022.

⁹⁰ See (n 88) for a full list of the NPCI's product offerings.

⁹¹ Subrata Panda, 'UPI hits record high in April with 5.58 bn transactions worth Rs 9.83 trn' *Business Standard* (Mumbai, 2 May 2022) <www.business-standard.com/article/finance/upi-hits-record-high-in-april-with-5-58-bn-transactions-worth-rs-9-83-trn-122050100480_1.html> accessed 24 May 2022.

⁹² Anto T. Joseph, 'How UPI is Making India's Digital Economy Boom' (*Fortune India*, 24 April 2021) <www.fortuneindia.com/enterprise/how-upi-is-making-indias-digital-economy-boom/105433> accessed 4 February 2022.

to facilitate payment transactions between users of their apps and account holders of different banks.

The next system under discussion is a new architecture called DEPA that was created to enable easier sharing of data between entities relying on the user's consent. A 2020 discussion paper published by the NITI Aayog, articulated DEPA's objectives of giving individuals more agency over their data and enabling innovation by breaking down data monopolies.⁹³ These goals are to be achieved through the operation of a new class of intermediaries called consent managers who will facilitate the sharing of data between businesses relying on an electronic consent management protocol. DEPA has already been deployed in the financial sector through RBI's Account Aggregator's framework and in the digital health sector under the Ayushman Bharat Digital Mission. The API specifications for the Account Aggregators have been put out by the Reserve Bank Information Technology Private Limited (ReBit)⁹⁴ and a non-profit industry body called the DigiSahamati Foundation has been set up to develop and enforce the multipartite contractual arrangements between ecosystem participants.⁹⁵

The third, and most recent, example in this list is the ONDC, a project that aims to digitise the entire e-commerce value chain, standardise its operations, and promote the inclusion of more suppliers.⁹⁶ The ONDC has been described as a technology-based network that will enable all kinds of e-commerce transactions in goods and services, allowing buyers and sellers across platforms to engage with one another.⁹⁷ The roll-out of this initiative is being overseen by the Department for Promotion of Industry and Internal Trade (DPIIT) with the actual implementation being done by a private sector-led non-profit company fashioned along the lines of the NPCI.⁹⁸ ONDC's share-

⁹³ NITI Aayog (n 14).

⁹⁴ 'Account Aggregator Ecosystem API Specifications' (ReBIT) <<https://api.rebit.org.in/>> accessed 24 May 2022.

⁹⁵ Sahamati, 'Participation Terms' (*Sahamati*) <<https://sahamati.org.in/participation-terms/>> accessed 24 May 2022.

⁹⁶ Ministry of Commerce & Industry, 'Setting up of Advisory Council for Open Network for Digital Commerce (ONDC)' (*Press Information Bureau*, 5 July 2021) <<https://pib.gov.in/PressReleasePage.aspx?PRID=1732949>> accessed 20 May 2022.

⁹⁷ Quality Council of India, 'Request for Proposal For Onboarding of Consulting Firm(s) for Technology Advisory and Product Management for Open Network for Digital Commerce', Reference No. QCI/PPID/1021/065 <[https://qcin.org/public/uploads/ck-docs/1634131716.RFP%20for%20Onboarding%20of%20Consulting%20Firm\(s\)%20for%20Technology%20Advisory%20&%20Product%20Management%20\(1\).pdf](https://qcin.org/public/uploads/ck-docs/1634131716.RFP%20for%20Onboarding%20of%20Consulting%20Firm(s)%20for%20Technology%20Advisory%20&%20Product%20Management%20(1).pdf)> accessed 20 May 2022.

⁹⁸ Ministry of Commerce & Industry, 'Shri Piyush Goyal reviews Open Network for Digital Commerce' (*Press Information Bureau*, 26 October 2021) <https://dpiit.gov.in/sites/default/files/PressRelease-CIM-26-10-2021-ONDC_27Oct2021.pdf> accessed 20 May 2022

holders include some of India's largest banks like HDFC, Kotak Mahindra, Axis Bank, State Bank of India and Punjab National Bank.⁹⁹ The system is currently being piloted in 5 regions – Delhi NCR, Bengaluru, Bhopal, Shillong, and Coimbatore.¹⁰⁰

All of these initiatives trace their origin to what is referred to as the India Stack framework – a collection of APIs developed by the private think-tank Indian Software Product Industry RoundTable (iSPIRT) and implemented in cooperation with different government and private agencies. India Stack consists of 4 layers of technology-based infrastructure – the presence-less, paperless, cashless, and consent layers – that are meant to facilitate easier digital transactions.¹⁰¹ UPI and DEPA directly correspond with the cashless and consent layers of India Stack while ONDC represents a sectoral application of the different functionalities of India Stack. Nandan Nikelani, the former Chairperson of the Unique Identification Authority of India, has been a champion of India Stack and has played an advisory role in the development of all the systems being discussed here.¹⁰²

B. Interaction with Big Tech

Unlike the regulatory initiatives discussed in Section 4, which were directly aimed at controlling the behaviour of big tech, the architectures described in this Section focus more on changes to the surrounding ecosystem. This is sought to be done mainly through the introduction of open APIs and standardisation initiatives aimed at facilitating interoperability.

⁹⁹ Melissa Cyrill and Naina Bhardwaj, 'What is ONDC? India's Plan to Take on E-Commerce Giants Amazon, Flipkart', (*India Briefing*, 27 May 2022) <www.india-briefing.com/news/what-is-the-open-network-for-digital-commerce-ondc-and-how-will-it-impact-ecommerce-in-india-23463.html/> accessed 20 May 2022.

¹⁰⁰ *ibid.*

¹⁰¹ Product Nation/ iSPIRT, *India Stack - Towards Presence-less, Paperless and Cashless Service Delivery. An iSPIRT Initiative (Slideshare)*, 1 March 2016) <www.slideshare.net/ProductNation/india-stack-towards-presenceless-paperless-and-cashless-service-delivery-an-ispirit-initiative> accessed 8 September 2022; 'Frequently asked questions and their answers' (*India Stack*) <<https://indiastack.org/faq.html>> accessed 8 September 2022.

¹⁰² TNN, 'Nilekani Advises NPCI on Aadhaar-backed Payments' *The Times of India* (Mumbai, 30 June 2015) <<https://timesofindia.indiatimes.com/business/india-business/nilekani-advises-npci-on-aadhaar-backed-payments/articleshow/47873710.cms>> accessed 26 May 2021; Nandan Nilekani, 'How To Empower 1.3 Billion Citizens With Their Data' (*Product Nation Blog*, 6 August 2018) <<https://pn.ispirit.in/empowercitizenswiththeir-data/>> accessed 26 May 2021; Pranav Mukul, 'ONDC: Looking to Open Source E-comm Processes, DPIIT Sets up 9-member Panel with Nilekani, R.S. Sharma' *The Indian Express* (New Delhi, 6 July, 2021) <<https://indianexpress.com/article/business/looking-to-open-source-e-comm-processes-dpiit-sets-up-panel-7390607/>> accessed 26 May 2021.

The lack of interoperability is a major contributor to the dominance of big tech. It feeds into strengthening the user base of big tech entities and their resulting ability to gather vast amounts of data intelligence. For instance, messaging platforms are presently designed in a manner that their users cannot interact with the users of other platforms. Similarly, sellers and buyers on e-commerce platforms cannot automatically search and transact across different platforms. This generates strong network effects for existing platforms – users find it most efficient to be on a platform that already has a significant user base. Introducing interoperability of the kind that enables information flows on the Internet, emails exchanges across different accounts, and communications between telecommunication networks, can, therefore, be an effective way of countering the dominance of big tech.¹⁰³

The NITI Aayog discussion paper on DEPA gives several examples of large data controlling entities or fiduciaries in the present system that hold user information in ‘data silos.’ This list includes big tech players like Amazon, Google, and WhatsApp but also others like the State Bank of India and Life Insurance Corporation in the financial sector and Indian technology companies like Paytm, UrbanClap, and Ola.¹⁰⁴ Since much of this discussion relates to the transmission of personal data, the legal and tactical positioning of DEPA has focused on the need for ‘empowering’ users and granting greater agency to them. But the crux of DEPA lies in creating a market for the exchange of data and, in that process, diluting the effects of the data monopolies that advantage the larger market players. As per DEPA’s designers, interoperability is the core advantage being offered by the consent managers framework.¹⁰⁵

Similarly, in the case of the ONDC, interoperability and unbundling are identified as its main features.¹⁰⁶ In contrast to a system of end-to-end e-commerce management by large platforms, the ONDC proposes to unbundle each step, thereby allowing multiple service providers to compete for services like order and inventory management, payment processing, logistics, etc.¹⁰⁷ It will also allow for cross-platform transactions among entities that choose to join the network. ONDC has been built using the becn protocol, a set

¹⁰³ Parsheera et. al (n 47)

¹⁰⁴ NITI Aayog (n 14), p. 26.

¹⁰⁵ NITI Aayog (n 14), p. 41.

¹⁰⁶ ONDC, ‘Talk by T. Koshy, Chief Executive Officer of ONDC, Future of Digital Commerce with ONDC: Startup Innovation Week’ (*YouTube*, 16 January 2022) <www.youtube.com/watch?v=IZSVoG4Pljw> accessed 22 May 2022.

¹⁰⁷ *ibid.*

of specifications that enable the creation of decentralised networks.¹⁰⁸ The ONDC is being positioned as an enabler of new e-commerce transactions but also as a means to 'remove monopolistic environments' in the Indian e-commerce sector.¹⁰⁹ News reports have been more explicit in calling it an initiative that will "erode Amazon and Walmart-owned Flipkart's online domination."¹¹⁰ Therefore, both the DEPA and the ONDC intend to speak to the challenges posed by the dominance of big tech in the areas of data intelligence and e-commerce.

This has, however, played out differently in the case of the NPCI. As noted earlier, the NPCI was created to strengthen the country's payments infrastructure, a space that has traditionally offered little scope for participation by non-banking entities. In multi-faceted technological ecosystems, each market segment has its own dynamics, constraints, and dominant players. In the case of the digital payments sector, banks have traditionally been and remain, the dominant players. Through the UPI, the NPCI created a platform that allows entities other than banks to participate in one particular segment of the digital payments market. But, as things turned out, big tech players turned out to be among the largest gainers of the UPI system.

The UPI app market is currently dominated by PhonePe (an indirect subsidiary of Walmart) and Google Pay with the Indian company Paytm holding the third position.¹¹¹ Commentators have attributed this to the scale and technology benefits enjoyed by these players, the use of cashback, rewards and other incentives, and flaws in the operationalisation of the interoperability requirements.¹¹² Given what we know about the market power and personal data excesses of big tech, this situation gives rise to a fair number of concerns. In a petition filed before the Supreme Court, Rajya Sabha member

¹⁰⁸ 'What is becn?' <<https://beecnprotocol.io/>> accessed 8 September 2022. The Beckn Foundation set up by Nanadan Nilekani, Promod Varma and Sujith Nair is described as the 'genesis author' and 'angel donor' of the becn protocol. Beckn Foundation <<https://beecnfoundation.org/>> accessed 8 September 2022.

¹⁰⁹ Ministry of Commerce & Industry (n 13).

¹¹⁰ Bhaswar Kumar, 'Can Open Networks for Digital Commerce take on Amazon & Walmart?' *Business Standard* (New Delhi, 2 May 2022) <www.business-standard.com/podcast/technology/can-open-networks-for-digital-commerce-take-on-amazon-walmart-122050200046_1.html> accessed 22 May 2022.

¹¹¹ As of January, 2022, PhonePe, GooglePay and Paytm accounted for 46.4%, 34.4% and 15.4%, respectively, of the UPI market in terms of number of transactions. See Laxitha Mundhra, 'PhonePe Maintains Lead In UPI With 49% Market Share In Jan 2022, WhatsApp At 0.02%' (*Inc42*, 9 Feb 2022) <<https://inc42.com/buzz/phonepe-maintains-lead-in-upi-with-49-market-share-in-jan-2022-whatsapp-at-0-02/>> accessed 23 May 2022.

¹¹² Aaryaman Vir and Rahul Sanghi, 'The Internet Country: How India Created a Digital Blueprint for the Economies of the Future', (*Tiger feathers Substack*, 15 January 2021) <<https://tigerfeathers.substack.com/p/the-internet-country?s=r>> accessed 23 May 2022.

Binoy Viswam has questioned the RBI and the NPCI for allowing big tech giants to gain such a dominant position in the payments space.¹¹³ The RBI itself has also articulated concerns around the growing presence of big techs in financial services.¹¹⁴

Similar concerns were perhaps behind the NPCI's decision to impose a volume cap of 30% of total transactions on any UPI app.¹¹⁵ Existing players have been given until the end of 2022 to comply with these requirements.¹¹⁶ Although the NPCI did not clearly explain its rationale for these actions, its circulars refer to the need to address "risks in the UPI ecosystem" and "provide diverse opportunities to the UPI ecosystem."¹¹⁷ At the same time, the NPCI also imposed a unique cap of 20 million users on WhatsApp while allowing it to join the UPI platform. The cap, which was subsequently revised to 40 million and recently 100 million, was supposed to ensure that the UPI system would not be overwhelmed by WhatsApp's large user base of approximately 400 million users.¹¹⁸ While this appears to be a logical concern, the restriction remains at variance with the requirements applicable to other players in the UPI ecosystem that are bound by a general cap of 30% market share but with no individual user limits.

This supplements the earlier point about the discretionary nature of the actions involving big tech, motivated by various strategic and pragmatic considerations. But unlike the previous examples, the authority, in this case, was not exercised by an agency of the state but by a private entity operating with

¹¹³ Legal Correspondent, 'SC Issues Notice to the RBI, NPCI Among Others' *The Hindu* (New Delhi, 16 October 2020) <<https://www.thehindu.com/news/national/sc-issues-notice-to-the-rbi-npci-among-others/article32866455.ece>> accessed 4 February 2022.

¹¹⁴ Reserve Bank of India, 'Financial Stability Report Issue No. 23' (July 2021), <<https://www.rbi.org.in/Scripts/PublicationReportDetails.aspx?UrlPage=&ID=1174>> accessed 4 February 2022, 9-10. See also Juan Carlos Crisanto, Johannes Ehrentraud and Marcos Fabian, *Big Techs in Finance: Regulatory Approaches and Policy Options* (Bank for International Settlements, 2021).

¹¹⁵ 'Guidelines on volume cap for Third Party App Providers (TPAPs) in UPI' (NPCI, 5 November 2020) <www.npci.org.in/PDF/npci/upi/circular/2020/OC-97-Guidelines-for-TPAPs-in-UPI.pdf> accessed 23 May 2022.

¹¹⁶ 'Standard Operating Procedure (SOP) – Market Share Cap for Third Party Application Providers' (NPCI, 25 March 2021) <www.npci.org.in/PDF/npci/upi/circular/2021/standard-operating-procedure-sop%E2%80%93market-share-cap-for-third-party-application-providers-tpap.pdf> accessed 23 May 2022.

¹¹⁷ NPCI (n 115 and n 116).

¹¹⁸ Sethu Pradeep, 'National Payments Corporation Of India Allows WhatsApp Pay To Double Users' (*Inc42*, 27 November 2021) <<https://inc42.com/buzz/npci-allows-whatsapp-pay-to-double-users-to-40-mn/>> accessed 4 February 2022; Shayan Ghosh, 'NPCI Permits WhatsApp to Raise UPI User Base to 100 million' (*LiveMint*, 14 April 2022) <www.livemint.com/industry/banking/npci-permits-whatsapp-to-raise-upi-user-base-to-100-million-11649880595039.html> accessed 19 May 2022.

the endorsement of the state. This offers a useful segue into the next segment that examines the NPCI as an example of 'alt big tech' in India.

V. CHARACTERISING THE NEW TECHNICAL SYSTEMS AS 'ALT BIG TECH'

The survey of the literature in Section 2 highlighted the following key characteristics of big tech – financial resources and market power, data intelligence, infrastructural capabilities, and societal impact. The technical systems discussed in the previous Section do not share several of these features, notably, big tech's profit motivations, market capitalization-linked economic power, and cross-border reach. On the contrary, they are said to be propelled by a sense of public-spiritedness that may well be the antithesis of big tech.¹¹⁹ This vision of having "private companies with a public purpose" was originally articulated by the Nandan Nilekani-led Technology Advisory Group for Unique Projects. The group advocated the creation of National Information Utilities (NIUs) that would implement technology-related infrastructure projects, citing the NPCI as an example of a comparable system.¹²⁰

While systems like the UPI, the DEPA, and the ONDC deviate from the design principle of "making reasonable profits"¹²¹ set out for NIUs, they share the same general model of state-backed, private-sector-led digital infrastructure. The proliferation of this model has attracted several concerns. This includes questions about the privatisation of public data¹²² and the true extent of 'openness' in the development and functioning of the systems, particularly on account of the disproportionate control exercised by some private actors in the process.¹²³

In this paper, I focus mainly on the competition and accountability implications of these developments, using the term 'alternative (or alt) big tech' to describe the technical systems under study. This is designed to capture their

¹¹⁹ ONDC, 'Talk by Nandan Nilekani, Advisory Board member of ONDC, Future of Digital Commerce with ONDC: Startup Innovation Week' (YouTube, 16 January 2022) < www.youtube.com/watch?v=IZSVoG4Pljw > accessed 22 May 2022.

¹²⁰ Nandan Nilekani et al., 'Report of the Technology Advisory Group for Unique Projects' (31 January, 2011) < www.nrddp.org/file_upload/tagup_report.pdf > accessed 8 September, 2022.

¹²¹ *ibid* 10.

¹²² Usha Ramanathan, 'Aadhaar - From Welfare to Profit' in Reetika Khera (ed), *Dissent on Aadhaar: Big Data Meets Big Brother* (Orient BlackSwan, 2019) 174.

¹²³ Bhavani Seetharaman, 'Findings: Large-scale digital public infrastructure' (*HasGeek*, 10 March 2022) < <https://hasgeek.com/OpenInnovation/mozilla-open-innovation-project-understanding-innovation-in-the-indian-tech-ecosystem/sub/findings-large-scale-digital-public-infrastructure-MokD4NE9eWVhKrcGikEicd> > accessed 22 May 2022.

positioning as an alternative to the present status quo of digital monopolisation by a handful of tech firms as well as the ability of these new systems to become the new centres of power and control in different areas of the digital ecosystem. This power emanates from the state's active backing of these projects, their designs of serving as the infrastructural core in the relevant sectors, and the emphasis on population-level deployment strategies. Since these are still early days for the DEPA and the ONDC projects, the observations in this part draw mainly on the NPCI's experience.¹²⁴ I make 4 broad observations in this context – i) state endorsement as a source of power, ii) scale and data effects, iii) infrastructure lock-in, and iv) accountability limitations.

First, each of the systems under consideration has been promoted by different agencies of the state. The endorsing agencies in the case of the DEPA include the NITI Aayog, which released a discussion paper on the subject, the RBI and other financial regulators, and the National Health Authority all of whom have adopted the architecture. In the case of the ONDC, the project was announced and is directly being overseen by the DPIIT in the Commerce Ministry. In the NPCI's case, the state backing comes from the RBI and, in some ways, the Ministry of Finance.¹²⁵ Their control over the organisation has also been illustrated by reports of the RBI's actions to override the NPCI Board of Directors' decision concerning the appointment of its Chief Executive in 2018.¹²⁶

At present, the NPCI is the only entity that has been authorised by the RBI to function as a retail payments organisation in India.¹²⁷ In its submissions before the Supreme Court, the RBI noted that the NPCI is solely responsible for allowing an entity to operate on UPI as well as to monitor compliance

¹²⁴ The NPCI has been in operation for over a decade and is often invoked as a model for other digital infrastructure projects, particularly in the context of the UPI.

¹²⁵ It has been reported that the Ministry actively asked banks to promote NPCI's RuPay card system over Visa and Mastercard leading to allegations of preferential treatment. See Reuters, 'Govt Approves Rs 1,300 Crore Plan To Promote RuPay Debit Cards, Rivaling Visa, Mastercard' (*The Wire*, 16 December 2021) <<https://thewire.in/business/govt-approves-rs-1300-crore-plan-to-promote-rupay-debit-cards-rivaling-visa-mastercard>> accessed 4 February 2022.

¹²⁶ The report indicates that the RBI's actions were influenced by the Government's preference and the recommendations of Nandan Nilekani who acted as an advisor to the NPCI. See Anuj Srivas, 'How the RBI Forced National Payments Body to Hire Government Favourite as CEO', (*The Wire*, 14 February 2018) <<https://thewire.in/business/rbi-npci-digital-india>> accessed 24 May 2022.

¹²⁷ Reserve Bank of India, 'Certificates of Authorisation issued by the Reserve Bank of India under the Payment and Settlement Systems Act, 2007 for Setting up and Operating Payment System in India' (3 January 2022) < www.rbi.org.in/scripts/publicationsview.aspx?id=12043> accessed 4 February 2022.

with the system's rules and procedures.¹²⁸ This allows it to unilaterally set the rules of the game, including who gets to participate and on what terms. As a result, the NPCI becomes an essential facility for any non-banking entity that wants to operate in the retail payments space through the UPI. Several commentators have highlighted this to be a problem in terms of the NPCI acting as an infrastructure provider as well as a quasi-regulator of the system.¹²⁹ Going forward, the DigiSahamati Foundation and the ONDC are likely to play a similarly powerful role in the Account Aggregator and e-commerce spheres but with the additional consideration that, unlike the NPCI, there is no specific regulatory structure to govern them.¹³⁰

Second, the technical systems under study are often described as India's technology-based products designed to achieve 'population scale transformation at start-up speed'.¹³¹ The achievement of significant scale is, therefore, core to each of the projects. In the NPCI's case, its scale advantage spans a range of verticals. The UPI system currently constitutes the single largest retail payment system in the country.¹³² In addition to the peer-to-peer transactions and merchant payments offered through the UPI, the NPCI also operates systems for utility bill payments and subscriptions, toll collection, Aadhaar-enabled payments, and the latest payment voucher system called e-RUPI. It sees millions of transactions every month across these verticals, which adds to its scale of coverage and socio-economic impact.¹³³

¹²⁸ Counter Affidavit on behalf of the Reserve Bank of India in *Binoy Viswam v. RBI*, 2021 SCC OnLine SC 273 < www.livelaw.in/pdf_upload/wp-1038-of-2020-sc-case-binoy-viswam-vs-rbi-counter-affidavit-final1-388252.pdf > accessed 2 February 2022, 14-15.

¹²⁹ Advait Palepu, 'Deciphering NPCI's Dominance In Digital Payments' (*Medianama*, 28 October 2020) < www.medianama.com/2020/10/223-deciphering-npcis-dominance-in-digital-payments/ > accessed 4 February 2022; Amol Kulkarni and Swasti Gupta, 'Submission to the Reserve Bank of India for Managing Concentration Risk and Promoting Competition and Innovation in Retail Payments Sector' (*CUTS International*) < https://cuts-ccier.org/pdf/CUTS_Submission_to_RBI_on_Innovation_and_Competition_in_Retail_Payments.pdf > accessed 4 February 2022; Arundhati Ramanathan, 'NPCI, The God of Many Things' (*The Ken*, 26 February 2018) < <https://the-ken.com/story/npci-god-many-things/> > accessed 4 February 2022.

¹³⁰ The NPCI falls under the supervision of the RBI under the Payments and Settlements Act, 2007.

¹³¹ ONDC, 'Talk by Adil Zainulbhai, Chairman of the Quality Council of India at Future of Digital Commerce with ONDC: Startup Innovation Week' (*YouTube*, 16 January 2022) < www.youtube.com/watch?v=IZSVoG4Pljw > accessed 22 May 2022.

¹³² ET Online, 'UPI currently the single largest retail payment platform in the country: Economic Survey' (*The Economic Times*, 31 January 2022) < <https://economictimes.indiatimes.com/industry/banking/finance/upi-currently-the-single-largest-retail-payment-platform-in-the-country-economic-survey/articleshow/89242932.cms> > accessed 22 May 2022.

¹³³ For instance, in the month of December 2021 there were 380 million payment transactions on UPI. See 'UPI Statistics' (NPCI) < www.npci.org.in/what-we-do/upi/upi-ecosystem-statistics > accessed 18 September 2022; 'FASTag Statistics' (NPCI) < www.npci.org.in/ >

In its capacity as the operator and monitor of all these systems, the NPCI potentially has access to vast amounts of data along with the ability to gather behavioural and transactional intelligence from such data. For instance, as per the rules governing UPI, the NPCI can call for any UPI-related data, information, and records from the system's participants.¹³⁴ Concerns about data safety and privacy have also come up specifically in the context of access to data collected by FASTag, the NPCI's electronic toll collection system.¹³⁵ However, there is little clarity about what sort of data aggregation and processing is being carried out by the NPCI, which connects with the larger issues of transparency and accountability discussed later.

Third, the resources spent on building and scaling a particular digital infrastructure and the emergence of strong interest groups in that process can create a situation of infrastructure lock-in. Future innovation, therefore, becomes restricted to 'innovation by' the existing entity as opposed to the emergence of radically different systems or models that can compete with it. This is illustrated, to some extent, by the developments surrounding the RBI's proposal to allow new 'umbrella entities' (NUEs) to compete with the NPCI in the provision of payments infrastructure.¹³⁶

In 2019, the RBI acknowledged that the concentration of payment system operations in a single entity can give rise to systemic and operational risks, lack of innovation and upgradation, and monopolistic trends.¹³⁷ This led

what-we-do/netc-fastag/netc-ecosystem-statistics), 'AePS Statistics' (NPCI) <www.npci.org.in/what-we-do/aeps/product-statistics/2021-22> accessed 18 September 2022 ; 'Bharat BillPay Statistics' (NPCI) <www.npci.org.in/what-we-do/bharat-billpay/product-statistics/bbpcu-monthly-product-statistics> accessed 18 September 2022.

¹³⁴ 'Roles & Responsibilities of NPCI' (NPCI) <www.npci.org.in/what-we-do/upi/roles-responsibilities> accessed 18 September 2022; A 2019 audit of NPCI's systems had found several lapses in its data protection systems, such as the storing of personal data like card numbers, names and account numbers in 'plain text'. See Aditya Kalra, 'India Found Cybersecurity Lapses at National Payments Corp in 2019 - Government Document' (*Reuters*, 30 July 2020) <www.reuters.com/article/india-cybersecurity-payments/exclusive-india-found-cybersecurity-lapses-at-national-payments-corp-in-2019-government-document-idINKCN24V0HC?edition-redirect=in> accessed 4 February 2022.

¹³⁵ Srikanth Lakshmanan, 'FASTag: Will Datafication of India's Tolls Boost Highway Development?' (*The Wire*, 14 December 2019) <<https://thewire.in/political-economy/fastag-will-datafication-of-indias-tolls-boost-highway-development>> accessed 2 February 2022.

¹³⁶ RBI, 'Framework for authorisation of pan-India Umbrella Entity for Retail Payments' (18 August 2020) <<https://www.rbi.org.in/Scripts/NotificationUser.aspx?Id=11954&Mode=0>> accessed 24 May 2022

¹³⁷ At the same time, the regulator also pointed to advantages of standardization, economies of scale, and consistency in oversight in such a structure. See Reserve Bank of India, 'Policy Paper on Authorisation of New Retail Payment Systems' (21 January 2019) <<https://rbi.org.in/scripts/PublicationReportDetails.aspx?UrlPage=&ID=918>> accessed February 2 2022.

to a proposal to open the payments infrastructure market to other NUEs which saw interest from several consortiums that included banks and other large domestic and multinational corporations.¹³⁸ Several commentators responded to these developments with concerns about the risks that big tech's role in NUEs posed for India's digital sovereignty, privacy and data safety. It was also claimed to be an unnecessary dilution of the NPCI's powers.¹³⁹ In response to such concerns, the RBI seems to have put the NUE process on hold.¹⁴⁰ While the RBI Governor recently noted that the applications were still under consideration,¹⁴¹ it appears that NPCI's stronghold over the payments sector may keep competition at bay, at least for now.

The setting up of entities like the NPCI and the ONDC as industry-owned, private, not-for-profit entities reflects a deliberate design choice of keeping them out of the purview of slow and cumbersome government processes. But this also means that these entities are able to escape the requirements of accountability, transparency, and due process that would typically be attracted by a public body performing a similar infrastructural function. This situation is what allows the NPCI to set market caps on all UPI apps without any public consultation or impose discretionary user limits on a new player seeking permission to enter the market. While the NPCI is subject to the RBI's supervision, the only available checks for the other not-for-profit systems may be through general rules of corporate governance. Commenting on the not-for-profit character of iSPIRT, M.S. Sriram has noted that this leads to entities being accountable neither to the State nor to the markets

¹³⁸ Ashwin Manikandan, Sachin Dave and Saloni Shukla, 'Six consortiums apply to RBI for NUE licence for retail payments' (*The Economic Times*, 1 April 2021) <<https://economictimes.indiatimes.com/tech/technology/six-consortiums-apply-to-rbi-for-nue-licence-for-retail-payments/articleshow/81791341.cms>> accessed 24 May 2022.

¹³⁹ Venkatesh Hariharan, 'Digital Payments: Do We Really Need New Umbrella Entities?' (*CXO Today*, 9 April 2021) <www.cxotoday.com/digital-payments/digital-payments-do-we-really-need-new-umbrella-entities/> accessed 24 May 2022; UNI Global Union, JACAFRE, IT for Change, All India State Bank of India Staff Federation, and UNI Indian Liaison Council, 'Representation Before the Board for Regulation and Supervision of Payment and Settlement Systems (BPSS) Requesting it to Disallow Amazon's Application for the New Umbrella Entity for Retail Payments' (*IT for Change*, 8 June 2021) <<https://itforchange.net/sites/default/files/add/Representation-Against-Amazon-Application-NUE-License.pdf>> accessed 2 February 2022.

¹⁴⁰ Gopika Gopakumar, 'RBI puts new payment network plan on hold' (*Live Mint*, 25 Aug 2021) <www.livemint.com/industry/banking/rbi-puts-new-payment-network-plan-on-hold-11629830389987.html> accessed 24 May 2022.

¹⁴¹ Priyanka Iyer, 'New Umbrella Entity applications under evaluation, clarifies RBI Governor Shaktikanta Das' (*Money Control*, 10 April 2022) <www.moneycontrol.com/news/business/new-umbrella-entity-applications-under-evaluation-clarifies-rbi-governor-shaktikanta-das-8072391.html> accessed 24 May 2022.

(beyond their limited stakeholder community).¹⁴² Similarly, in the case of the technical systems under discussion, their accountability will logically extend only to their members with a mechanism to hold them accountable to end consumers and to the public at large, who are supposed to be the ultimate beneficiaries of these systems.¹⁴³

In sum, the UPI, the DEPA, and the ONDC are all examples of technical systems that are being rolled out through a coordinated strategy of public-private collaboration – the solutions are developed in the private sector and endorsed through state actions. The entity in question enjoys significant control over the entry of participants into the system and can shape and enforce technical standards and other rules of participation. This represents a new brand of power and control that is different from the kind of power that is enjoyed by big tech yet significant in terms of long-term consequences for competition, innovation, and accountability – all of which will have a bearing on public interest.

VI. CONCLUSION

This paper engaged with the meaning of big tech, in terms of its popular use as a set of large, predominantly American-owned, corporations and the logic behind clubbing those entities under this umbrella term. A review of the literature on this subject led to the identification of the following defining features of big tech – financial resources and market power, large user base, data intelligence, infrastructural capabilities, and societal impact. The dominating influence of big tech in all of these spheres has generated concerns that cut across issues of fair competition and innovation, digital sovereignty, human rights, and civic and political engagement.

Set against this background, the paper presented a non-exhaustive list of the different policy contexts in which the idea of regulating big tech has come up in the Indian policy space. It highlighted 4 broad motivations or types of regulatory interventions – addressing anti-competitive conduct, enhanced obligations for ‘significant’ players, data control, and ensuring general compliance with laws.

¹⁴² M.S. Sriram, ‘Public Investments and Private Profit’ in Reetika Khera (ed), *Dissent on Aadhaar: Big Data Meets Big Brother* (Orient BlackSwan, 2019), 197.

¹⁴³ A 2019 decision by the Central Information Commission rejected a request to treat the NPCI as public authority under the Right to Information Act, 2005 thereby exempting it from the requirement of public scrutiny. See *Neeraj Sharma v. Bank Of Baroda*, Central Information Commission order dated 10 December 2019 <<https://indiankanoon.org/doc/40809441/>> accessed 2 February 2022.

In all of these situations, the term 'big tech' is rarely, if ever, used in the policy documentation but the examples of its presumed constituents often come up, for instance, in areas such as intermediary liability, non-personal data governance, and e-commerce. This seems logical given the scale and power of these firms which makes them obvious targets of any actions aimed at controlling anti-competitive activities or regulating other economic and social risks in the digital sphere. At the same time, evidence from policy practice suggests that the responses to big tech are often subjective and individualised, shaped not only by general notions of 'bigness' but also by a range of other political, strategic, and pragmatic considerations.

Alongside this assortment of policy responses, India is seeing a new trend of state-endorsed and industry-owned technical systems aimed at introducing open standards and interoperability in different spheres of the digital ecosystems. The paper discussed the NPCI's UPI system, the DEPA consent management architecture, and the latest ONDC initiative in the e-commerce sector as examples of such 'alt big tech' systems. Their characterisation as such is meant to capture both their positioning as an alternative to the present status quo of digital monopolisation by a handful of tech firms as well as their potential of becoming the new centres of power and control in the digital ecosystem. As elaborated in the paper, these new systems come with their own avenues for power play, the potential for infrastructural lock-in, and accountability concerns that can be detrimental to public interest and competition in the long run.

To summarise, the term big tech offers a helpful and now well-understood label for describing the world's most powerful technology companies. The challenges posed by the dominance and practices of these firms are well recognised, as is the need for imposing more effective checks on them. India is still in the early stages of formulating its governance strategy on big tech, reflected through competition enforcement, domain-specific regulatory actions and new technical systems that aim to alter the underlying dynamics of digital markets. While much has been said about the innovative and inclusive potential of these new systems, the paper highlighted that these developments are accompanied by certain competition and accountability concerns that are not being adequately addressed in the current model.

Future work on this subject could evolve in at least 2 directions. First, to supplement the present mapping exercise with an analysis of the adequacy of India's regulatory responses to big tech and whether a more comprehensive ex-ante regulatory approach may be in order. Second, to understand what sorts of design modifications and checks and balances are necessary

to ensure that the claimed benefits of India's new technical systems are not overrun by the risks and challenges identified here.