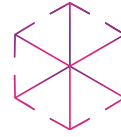


An IAMAI Report

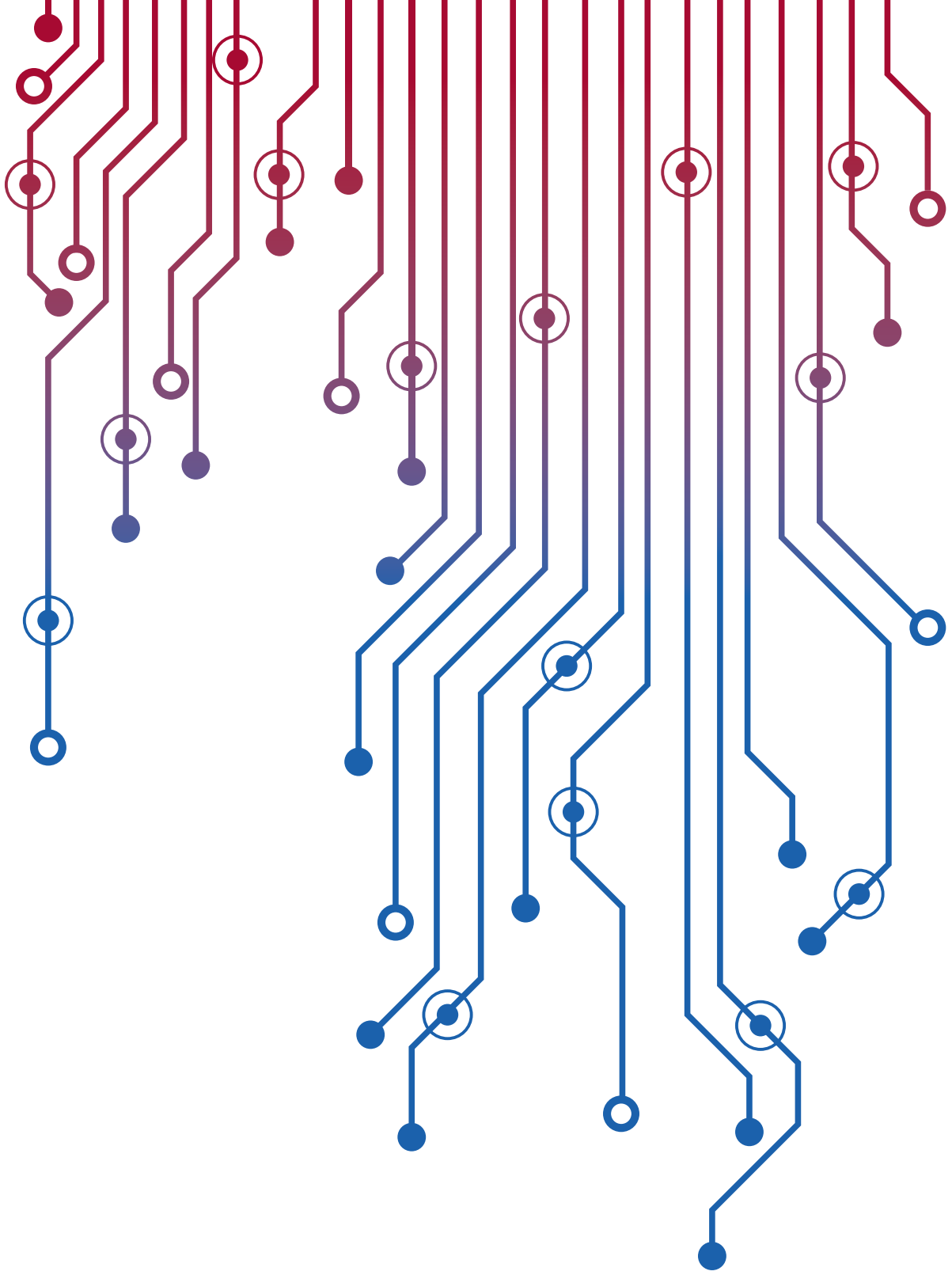


Authored by



IKIGAI LAW

DIGITAL TECHNOLOGY POLICY FOR INDIA'S USD 5 TRILLION ECONOMY



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This report is brought to you by the Internet and Mobile Association of India (“IAMAI”). IAMAI thanks Ikigai Law for its research and collaboration on this initiative.

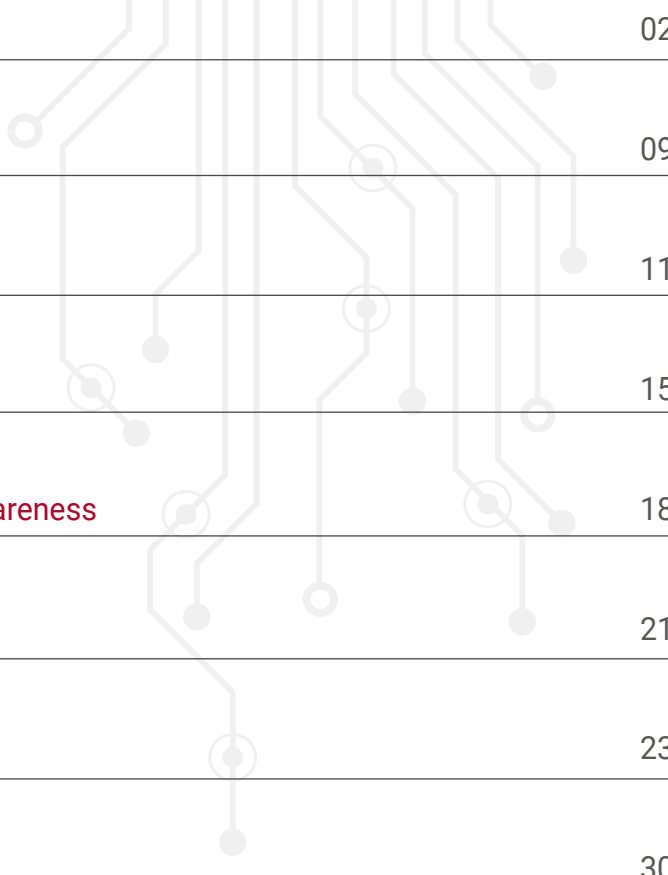
ABOUT IAMAI

IAMAI is a young and vibrant association representing the entire gamut of digital businesses in India. Established in 2004 by the country’s leading online publishers, IAMAI has come to effectively address the challenges facing the digital and online industry including mobile content and services, online publishing, mobile advertising, online advertising, e-commerce and mobile and digital payments, among others. Fifteen years after its establishment, the association is one of the foremost professional bodies representing the online industry in India. The association is registered under the Societies Act, 1896 and is a recognised charity in Maharashtra. With a membership of over 300 Indian and overseas companies, and with offices in Mumbai, Delhi, Bengaluru and Kolkata, the association is well placed to work towards charting a growth path for the digital industry in India.

ABOUT IKIGAI LAW

Ikigai Law is an award-winning policy and law firm with a deep focus on the technology industry. The firm stands at the forefront of regulatory and commercial developments in the technology sector with a dedicated technology policy practice, engaging with crucial issues such as data protection and privacy, fin-tech, online content regulation, platform governance, digital competition, cloud computing, net neutrality, health-tech, blockchain and unmanned aviation (drones), among others. Representing diverse stakeholders including the government, businesses, and think tanks, the firm’s services are driven by the vision of becoming “partners for impact”.

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EXECUTIVE SUMMARY

The prime minister in his first address to the new parliament laid out an ambitious plan to make India a USD 5 trillion economy by 2024. Expressing his confidence in the country's potential, he stated that while this was a difficult target, it was an achievable one¹.

Technology and digitisation will play a key role in achieving the USD 5 trillion milestone, as indicated by the finance minister in her budget speech for the year 2019-20². This comes as no surprise, as two of the world's largest economies have grown over the last 15 years on the back of the digital and technology industry³. India's growth in this period has been driven largely by technology as well⁴. For instance, the government's focus on the 'Digital India' programme has led India to become one of the largest and fastest-growing digital markets in the world⁵.

Technology and digitisation will play a key role in achieving the USD 5 trillion milestone, as indicated by the finance minister in her budget speech for the year 2019-20.

This digital market will be contributing significantly to the growth of the Indian economy, as is evident from the fact that the country's existing digital ecosystems alone contribute up to USD 500 billion of economic value⁶. As per the ministry of electronics and information technology, this number is set to rise to USD 1 trillion by 2025⁷. Therefore, as India moves towards become a leading global economy, it is imperative for the government to re-look, re-boot and re-think its technology policy.

We believe that technology use and adoption is going to be the driving force of India's journey to becoming a USD 5 trillion economy. The positive externalities and the multiplier effect that digital and emerging technologies are going to bring about are going to be at the root of India's endeavours to become one of the largest economies of the world. Over and above the estimated USD 1 trillion contribution of digital ecosystems to the economy, digitisation and technology are going to play a key role in the growth of existing and new sectors of the economy. Affordable access to the internet is allowing the Indian consumer base to become well-connected with the marketplace regardless of geographic location, making room for fast-moving technology-based businesses with significant economic potential. It is estimated that at least 60-65 million new jobs could be created in this new digitally-driven marketplace.

It is our belief that a carefully crafted, deeply thought out and widely consulted set of policies that are geared towards the adoption, use and promotion of digital technology will go a long way in ensuring that we meet our targets. Such a policy will not only bring us close to the target in terms of gross domestic product ("GDP"), but will also make sure that the resource allocation needed and the proper distribution expected would also be done speedily and efficiently. We look forward to partnering with the government in its efforts to achieve this goal. We truly believe that through concerted efforts; consultative processes with multiple stakeholders including industry players, academia and civil society; and a facilitative regulatory framework, India can achieve this goal.

In this report, therefore, we present to the government, regulators, think tanks, industry and technology enthusiasts a set of guiding principles that may be used in the making of the appropriate technology policy that India needs on its way to becoming a USD 5 trillion economy with its attendant socio-economic benefits to the citizens. We hope

¹ The Economic Times, Making India USD 5 trillion economy challenging but achievable: Narendra Modi, dated 15 June 2019, available at <https://economictimes.indiatimes.com/news/economy/policy/making-india-usd-5-trillion-economy-challenging-but-achievable-narendra-mo-di/articleshow/69801484.cms>.

² Union Budget 2019-20, Full text of Nirmala Sitharaman's speech, dated 5 July 2019, available at https://www.indiabudget.gov.in/doc/Budget_Speech.pdf.

³ M.H. Nickle and K. Frimpong, Trends in the Information Technology sector, dated 29 March 2019, available at <https://www.brookings.edu/research/trends-in-the-information-technology-sector/#footref-3>. See also, The State Council, The People's Republic of China, dated 4 December 2017, available at http://english.gov.cn/news/top_news/2017/12/04/content_281475964489136.htm.

⁴ V. Aggarwal and V. Ganesh, Digital economy a \$1-trillion opportunity for India, dated 20 February 2019, available at <https://www.thehindubusinessline.com/info-tech/digital-economy-a-1-trillion-opportunity-for-india/article26323150.ece>.

⁵ Ministry of electronics and information technology, India's Trillion Dollar Digital Economy, dated 20 February 2019, available at https://www.meity.gov.in/writereaddata/files/india_trillion-dollar_digital_opportunity.pdf.

⁶ Ministry of electronics and information technology, India's Trillion Dollar Digital Economy, dated 20 February 2019, available at https://www.meity.gov.in/writereaddata/files/india_trillion-dollar_digital_opportunity.pdf.

⁷ Ministry of electronics and information technology, India's Trillion Dollar Digital Economy, dated 20 February 2019, available at https://www.meity.gov.in/writereaddata/files/india_trillion-dollar_digital_opportunity.pdf.

that this report is able to assist India in actualising its digital potential, and formulating an innovation friendly regulatory framework. The report is meant to be sector-agnostic and future-ready so as to remain relevant in times when regulators are forced to play cat and mouse with new and evolving technologies. It has been divided into two sections. Section I deals with crucial infrastructural building blocks that form the foundation of the digital economy. These include India's connectivity infrastructure, its mobile device ecosystem, and the steps taken to increase digital literacy and consumer awareness. Section II deep dives into targeted areas of the Indian digital economy and suggests recommendations for strengthening them. It examines the challenges presented by the broader issues of data governance; platform regulation and intermediary liability; cyber security; encryption and surveillance; competition and digital tax; as well as the regulation of specific areas such as emerging technologies; cloud service providers; and digital payments.

A. Regulatory Approach

Guided by the foresight of the prime minister's vision for a 'Digital India', the government has played the role of an encouraging enabler of digital technology since 2014. In the five years since the launch of the 'Digital India' programme, the country has witnessed a steady rise in the growth of digital infrastructure and e-governance services⁸, that in turn have enabled the digital empowerment of citizens across the board⁹. These advances have complemented the government's efforts in meeting the goals of the 'Startup India' initiative, which intends to build a "*strong and inclusive ecosystem for innovation and entrepreneurship in India*."¹⁰ For instance, Indian startups have received increasing amounts of investments every year, with a total of USD 4.2 billion in funds raised in 2018, recording a 108% growth compared to the amount raised in 2017¹¹. The resolution of the 'angel tax' issue and tax exemptions proposed by the finance minister in the union budget speech for 2019 will further aid this growth¹².

In the five years since the launch of the 'Digital India' programme, the country has witnessed a steady rise in the growth of digital infrastructure and e-governance services, that in turn have enabled the digital empowerment of citizens across the board.

The success of the 'Digital India' programme has had positive effects in other sectors of the economy as well. For instance, affordable access to the internet coupled with an encouraging regulatory ecosystem has allowed India to become home to the second largest number of internet users in the world¹³. This in turn has allowed e-commerce companies to thrive¹⁴. The push towards incentivising digital payments proposed under the union budget for 2019 will allow further expansion of the e-commerce sector. The government has focused on giving a push to emerging technologies as well, as evidenced by the NITI Aayog's 'National Strategy for Artificial Intelligence', the National Telecom Machine-to-Machine Communications Roadmap¹⁵ and the draft Internet of Things Policy document¹⁶. The forward-looking National Digital Communications Policy, 2018 also lays out a detailed roadmap for harnessing these technologies.

⁸ The Economic Times, UN panel lauds India's digital initiatives for economic inclusion, dated 13 June 2019, available at <https://economictimes.indiatimes.com/news/economy/finance/un-panel-lauds-indias-digital-initiatives-for-economic-inclusion/articleshow/69769783.cms?from=mdr>.

⁹ The Hindu Business Line, E-governance empowering India, dated 7 March 2019, available at <https://www.thehindubusinessline.com/brandhub/e-governance-empowering-india/article26457213.ece>.

¹⁰ Ministry of commerce and industry, About Startup India, available at <https://www.startupindia.gov.in/content/sih/en/about-us.html>.

¹¹ Economic Times, Startups in India see 108% growth in funding in 2018: NASSCOM, dated 25 October, 2018, available at <https://economictimes.indiatimes.com/small-biz/startups/newsbuzz/startups-in-india-see-108-growth-in-funding-in-2018-nasscom/articleshow/66365422.cms?from=mdr>.

¹² Union Budget 2019-20, Full text of Nirmala Sitharaman's speech, dated 5 July 2019, Para 113, available at https://www.indiabudget.gov.in/doc/Budget_Speech.pdf.

¹³ Business Today, India home to world's second largest internet user base, thanks to Jio: Report, dated 12 June, 2019, available at <https://www.businesstoday.in/pti-feed/india-home-to-worlds-second-largest-internet-user-base-thanks-to-jio-report/story/355502.html>.

¹⁴ Financial Express, India's e-commerce industry likely to reach \$125-150 billion by FY20, dated 5 February, 2019, available at <https://www.financialexpress.com/industry/indias-e-commerce-industry-likely-to-reach-125-150-billion-by-fy20/1476640/>.

¹⁵ Department of telecommunications, National Telecom M2M Roadmap, dated May 2015, available at <http://dot.gov.in/sites/default/files/National%20Telecom%20M2M%20Roadmap.pdf>.

¹⁶ Ministry of electronics and information technology, Internet of Things, dated 22 July 2016, available at <https://meity.gov.in/content/internet-things>.

More of such open and encouraging policies are needed in order for India to achieve the USD 5 trillion economy target. India is a resource poor and brain rich country, and therefore our comparative advantage is not in natural resources or in finance, but in innovation in policy. We should leverage this advantage by making India the experimental ground for cutting-edge innovations in technology. India provides the ideal fertile ground for projects like the 'HUB 71 platform', that are currently being hosted in Abu Dhabi¹⁷.

India is a resource poor and brain rich country, and therefore our comparative advantage is not in natural resources or in finance, but in innovation in policy.

In order to make India the world leader in policy and regulatory innovation, our regulatory approach should focus on the regulation of the 'core' industry players, and not entities that fall on the 'edge' of the regulatory spectrum. This can be done by drafting clearly articulated outcome-based regulations. It is also important to make regulations that tackle real threats, as opposed to perceived challenges. This allows nascent and emerging industries to stand on their feet before being subjected to strict regulatory scrutiny. A co-regulatory and self-regulatory framework allows regulators to create such enabling rules.

India already has some experience in evolving co-regulatory and self-regulatory frameworks. For instance, the Information Technology (Reasonable Security Practices and Procedures and Sensitive Personal Data or Information) Rules, 2011¹⁸ allow companies to either follow industry best practices for data security, or frame their own codes and have them ratified by the government. The Data Security Council of India¹⁹ established by the National Association of Software and Services Companies prescribes best practices, codes and frameworks to enhance cyber security and privacy. In a more recent example of participative regulation, certain social media companies, acting through the Internet and Mobile Association of India evolved a voluntary code governing the takedown of online content during India's recent general elections, and worked with the Election Commission of India on this issue.

Participative regulatory models will not only help us address emerging challenges in India's digital economy, but will also allow us to position ourselves as a technology-friendly jurisdiction.

Participative regulatory models will not only help us address emerging challenges in India's digital economy, but will also allow us to position ourselves as a technology-friendly jurisdiction. In our view, consultative regulatory frameworks comprise²⁰ clear, transparent, and effective dialogue at every stage between the government and all stakeholders; graded, context-specific, and tailored regulatory responses, as opposed to heavy-handed ones; an appetite for innovative regulatory structures such as regulatory sandboxes; and a willingness to enhance regulatory capacity and measure performance.

B. Recommendations

We make the following recommendations to strengthen India's building blocks, and address key digital economy challenges across various sectors.

Section I : Building blocks

Connectivity infrastructure

1. Prioritize the adoption and implementation of the key recommendations of the National Digital Communications Policy, 2018 ("NDCP 2018") that lays out a comprehensive roadmap to enable the adoption of new and emerging technologies in India²¹.

¹⁷ Official website for HUB71, available at <https://www.hub71.com/>.

¹⁸ Information Technology (Reasonable Security Practises and Procedures and Sensitive Personal Data or Information) Rules, 2011.

¹⁹ TheDataSecurity Council of India, available at <https://www.dsci.in/>.

²⁰ Pages 275 and 276, A. Padmanabhan and A. Rastogi, Big Data, in D. Kapur and M. Khosla (eds.), Regulation in India: Design, Capacity, Performance (Hart, 2019).

²¹ Ministry of electronics and information technology, India's Trillion Dollar Digital Economy, dated 20 February 2019, available at https://www.meity.gov.in/writereaddata/files/india_trillion-dollar_digital_opportunity.pdf.

2. Ease licensing and regulatory requirements for telecommunications services, which will boost foreign investment and facilitate the development of next generation technologies in India.
3. Introduce structural reforms in the management of the Bharat Broadband Network Limited and other implementing agencies to improve their efficiency. This will be a decisive factor in realizing the vision for universal broadband coverage and other goals.

Mobile device ecosystem

1. Align various regulations governing different aspects of the mobile device ecosystem, and institute a single window compliance mechanism for the registration and testing of mobile devices to be sold in India. This will facilitate the ease of doing business for both sellers and manufacturers.
2. Simplify product testing and certification requirements for imported products. India's current processes are expensive and time consuming for importers and manufacturers, and redundant for devices being imported from countries such as the US, that already have strict standards for exported products.
3. Create an export-focused electronics manufacturing hub in India.

Digital literacy and consumer awareness

1. Develop a comprehensive national digital literacy and education strategy that integrates the needs of various stakeholders, covers multiple skill clusters, and disseminates information at various levels. This strategy must also include a focus on the value to users from going digital and the difference that it will make in their daily lives.
2. Adopt a phased approach to digital literacy programs. The requirements of different demographic groups, the urban-rural divide, the end use of the digital medium, and impact on employability are factors that should be considered.
3. Educate consumers on consumer rights in the digital world and grievance redressal mechanisms for online transactions.

Section II : Digital economy policy

Data governance

1. Harmonise all government policies on data governance in line with the recommendations of the Justice Srikrishna Committee and the frameworks under the Personal Data Protection Bill, 2018, which will serve as the basis for the national law on data protection.
2. Reconsider data localisation requirements, considering the harms of data localisation to the Indian economy, and increased threats to cyber security.
3. Encourage the free flow of data across borders to ensure that Indian companies have access to the best cloud service platforms, big data analysis tools, and other emerging technologies from around the world. In parallel, focus on strengthening inter-governmental cooperation arrangements and Mutual Legal Assistance Treaties to facilitate cross-border flows of data. Additionally, focus on alternate measures (including bilateral agreements, adequacy arrangements) to address concerns relating to transfer of data.
4. Redesign notice and consent frameworks for the digital age. Traditional notice and consent frameworks lead to consent fatigue and a lack of informed consent, impair the development of new technologies, and do not safeguard data principals' rights. Instead, accountability-based models should be adopted. Consent frameworks should ensure that the control over data remains with the data principal and is not passed on to the data processor.
5. Use the purpose of data processing as the basis for determining the sensitivity of data, instead of adopting a list-based approach.
6. Revise the classification of data under the Personal Data Protection Bill, 2018 to exclude indirectly identifiable data from the ambit of 'personal data'. Further, the definition of sensitive personal data under the bill should exclude financial data.

Cyber security

1. Formulate implementation strategies for the National Cyber Security Policy, 2013, which will boost the development of India's cyber security framework.
2. Encourage private sector participation in the formulation of cyber security policies. This will encourage the development and adoption of innovative and nimble solutions well-suited to address increasingly dynamic and sophisticated threats to cyber security.
3. Strengthen regulatory accountability frameworks applicable to the CERT-In by mandating and enforcing standard response procedures in response to cyber security incidents. In addition, strengthen accountability frameworks applicable to law enforcement requests for access to data.
4. Enact a robust cyber security law which will help address the rise in cyber security breaches and ensure the better implementation of cyber security protocols.
5. Reconsider data localisation requirements as storing data across several jurisdictions keeps it more secure and helps in data recovery in case of disasters.

Encryption and surveillance

1. Harmonise the various laws governing encryption and surveillance to address overlaps and conflicts and balance individual privacy, business interests, and law enforcement objectives.
2. Adopt leading industry standards for encryption in place of the standards currently prescribed under Indian law, as they do not adequately secure information.
3. Prescribe narrow and tailored grounds for decryption that balance law enforcement imperatives with individual privacy.
4. Introduce legislative or judicial oversight over government surveillance to safeguard privacy and align Indian law with global best practices.
5. Disclose law enforcement requests to impacted persons in the interests of government transparency and individual privacy.
6. Retain end-to-end encryption and do not institute encryption backdoors. While end-to-end encryption enables the freedom of expression and privacy of individuals, backdoors create cyber security vulnerabilities which may be exploited by hackers and attackers.
7. Permit bulk encryption as it provides a high degree of data and cyber security, and a ban on bulk encryption increases business costs.
8. Promote more resilient authentication processes such as risk based or multi-factor authentication to enhance transactional security.

Cloud computing

1. Allow cross border data flows as these are integral to the business models of global cloud service providers, ensuring data security, and access to innovative cloud computing services for Indian businesses.
2. Implement light touch regulation and ease the regulatory burden on cloud service providers.
3. Ensure regulatory consistency by ensuring that cloud computing is regulated only under India's information technology laws, and not as a telecommunications service.

Emerging technologies

1. Design data governance frameworks that are well-suited for emerging technologies, re-visit traditional notice and consent models, purpose limitation mandates, and data localisation, while also addressing privacy concerns.
2. Introduce device-specific certification standards for Internet of Things ("IoT") devices depending on their functionality, security concerns, and data collection capabilities.
3. Encourage artificial intelligence ("AI")/machine learning ("ML"), and IoT technology adoption within the government and build regulatory capacity on these emerging technologies.

4. Promote awareness about AI/ML and IoT technologies and devices, including their security safeguards, which will also help boost consumer confidence in emerging technologies.
5. Adopt global best practices, standards and certifications for AI/ML and IoT technologies.
6. Develop an implementation roadmap in consultation with stakeholders for the National Artificial Intelligence Strategy, 2018 to give effect to its recommendations across sectors.
7. Discuss patents frameworks for AI algorithms, which are exempted from patentability under current Indian law. Reforming this position will enable AI development and prevent intellectual property theft related to AI.

Digital payments

1. Lower regulatory barriers to entry for new businesses by narrowly defining payment systems and regulating technology service providers differently from payment systems.
2. Adopt industry-led standards for non-systemically important payment systems that do not pose a threat to the financial market infrastructure to ease costs and increase flexibility in operations for new businesses.
3. Ease eligibility criteria for the Reserve Bank of India's ("RBI") regulatory sandbox framework to allow more mature start-ups and licensed payment systems to participate in the sandbox environment.
4. Relax additional factor authentication requirements for recurring transactions, in order to promote subscription-based businesses.
5. Simplify know-your-customer ("KYC") norms for pre-paid instruments, which currently require the same level of KYC as banks.
6. Implement security by design principles that adhere to global norms for information and network security protocols to ensure robust cyber security in critical national financial infrastructure.
7. Encourage the adoption of digital payments by introducing tangible benefits including tax incentives and dis-incentivise cash transactions to reduce India's dependence on cash.
8. Create better customer protection frameworks that will lead to better customer trust in innovative finance products by promoting multi-lingual financial literacy and a robust grievance redressal machinery.
9. Create an independent and transparent supervisory board for regulating payment systems to foster competition, consumer trust, and stability in the payments sector.
10. Promote interoperability between digital payments' interfaces by giving impetus to the RBI's Prepaid Payment Instruments (PPIs) – Guidelines for Interoperability.
11. Reform the National Payments Corporation of India ("NPCI") to resolve the conflict of interest it faces as a participant in the digital payments' space as well as a rule-making body for Unified Payments Interface ("UPI") in India.
12. Enhance industry participation to realise the RBI's vision for digital payments for the period 2019-2021.

Platform regulation: Intermediary liability

1. Preserve safe harbour protection for internet intermediaries, as safe harbours are crucial for innovation and entrepreneurship, and the freedom of expression of Indian citizens.
2. Do not introduce pro-active content monitoring requirements for internet intermediaries as they contravene the directions of the Supreme Court²², and may lead to intermediaries censoring legal content and deploying opaque, automated content filters, all of which harms free speech.
3. Do not require intermediaries to set up offices in India as these are strategic business decisions best left to market forces. Moreover, facing increased compliance costs, companies may altogether cease to offer their services in India, harming Indian consumers and businesses.
4. Do not prescribe additional regulation for content on online platforms as the Information Technology Act, 2000 and rules framed under it are sufficiently equipped to deal with the regulation of online content.

²² Shreya Singhal v. Union of India, Writ Petition (Criminal) No. 167 of 2012.

Evolving issues: Competition law and digital taxation

1. Incentivise the participation of technically skilled experts in the Think Tank on Digital Markets (“**ThinkTank**”) and invest in regulatory capacity building.
2. Increase transparency in internal processes of the Competition Commission of India, the Think Tank and other committees constituted.
3. Update the Competition Act, 2002 to address issues of a growing digital economy and innovative business models, such as virtual market places.
4. Consider the introduction of settlement proceedings in line with global best practices to ensure the swifter resolution of disputes, and customised remedies for each case.
5. Apply new rules affecting taxation prospectively and clarify that they have no bearing on ongoing assessments or appellate proceedings.
6. Adopt a balanced approach to amending India’s tax framework based on in-depth consultation with all stakeholders, as these amendments will replace long-settled international norms, and have ripple effects throughout the Indian economy.
7. Honour existing Advance Pricing Agreements that the Central Board of Direct Taxes has entered into with numerous tax payers.



SECTION : I

**BUILDING
BLOCKS
OF A 5 TRILLION
DOLLAR ECONOMY**

Overview

This section focuses on the fundamental building blocks of India's digital economy and assesses the progress made on strengthening each of these over the course of 2014-2019. We have identified three key building blocks, which are digital connectivity infrastructure; mobile device ecosystem; and consumer awareness and digital literacy. It is essential to strengthen all three building blocks, as they control the pace of digitisation in the country, which in turn controls the pace at which India becomes a trillion dollar economy. Policy-making for these building blocks must focus on the promotion of the underlying infrastructure and technologies, and must step in to regulate them only in case they veer off targeted goals. In this report, we have discussed these building blocks as follows:

1. Digital connectivity infrastructure, which focuses on India's telecommunication and internet infrastructure. This sub-section includes measures taken by the government to promote internet and broadband coverage.
2. Mobile device ecosystem, which focuses on India's device manufacturing capacity. This sub-section includes an assessment of the state of hardware security in the country.
3. Consumer awareness and digital literacy, which deals with the protection of consumer rights in the digital world. This sub-section also examines the steps taken to improve access to internet and introduce best practices for privacy and safety online.

These building blocks have been dealt with over the course of three sub-sections below. Each of these sub-sections sets out the context for the discussion, examines the current state of law and policy, and outlines our views on the challenges hindering the development of each building block and our suggestions to address them.

DIGITAL CONNECTIVITY INFRASTRUCTURE

A. Context

Digital infrastructure is a “[c]ollection of technological and human components, networks, systems, and processes that contribute to the functioning of an information system”²³. Per the Telecom Regulatory Authority of India (“TRAI”), the country’s digital infrastructure includes its e-service infrastructure, information technology (“IT”) infrastructure and many such components²⁴. Digital connectivity vastly impacts growth because it facilitates communication and

Digital connectivity vastly impacts growth because it facilitates communication and commerce, that forms the basis of economic growth.

commerce, that forms the basis of economic growth²⁵. In fact, it is reported that “[a] 10 per cent increase in India’s total Internet traffic, delivers on average a 3.3 per cent increase in India’s GDP, and a 10 per cent increase in India’s mobile Internet traffic, delivers on average a 1.3 per cent increase in India’s GDP”²⁶.

It is therefore crucial to develop robust digital connectivity infrastructure. This was also highlighted by the ministry of electronics and information technology (“MeitY”) as a part of its overall vision for a ‘Digital India’²⁷, and the recently released National Digital Communications Policy, 2018 (“NDCP 2018”)²⁸. Given their emphasis on strengthening this particular building block, the ‘Digital India’²⁹ programme and the key recommendations of the NDCP 2018³⁰ are the main focus of this sub-section.

B. Current state of law and policy

‘Digital India’, was launched with a vision “to transform India into a digitally empowered society and knowledge economy”³¹. Its goals are the development of secure and stable digital connectivity infrastructure, the delivery of government services digitally, and universal digital literacy³². Digital connectivity infrastructure in turn comprises of three sub-components: (i) broadband internet for all urban and rural India; (ii) universal access to phones³³; and (iii) common services centres (“CSC”)³⁴.

²³ O. Henfridsson and B. Bygstad, MIS Quarterly, The Generative Mechanism of Digital Infrastructure Evolution, available at http://www.olahenfridsson.com/Ola/Publications_files/Henfridsson_and_Bygstad_accepted_late_version.pdf.

²⁴ O. Henfridsson and B. Bygstad, MIS Quarterly, The Generative Mechanism of Digital Infrastructure Evolution, available at http://www.olahenfridsson.com/Ola/Publications_files/Henfridsson_and_Bygstad_accepted_late_version.pdf.

²⁵ Page 9, R. Kathuria, Digital India and Telecommunication Infrastructure: An Update, available at http://ris.org.in/pdf/aib/03may2018/Background_Note_Digital_Infrastructure.pdf.

²⁶ Page 8, R. Kathuria, Digital India and Telecommunication Infrastructure: An Update, available at http://ris.org.in/pdf/aib/03may2018/Background_Note_Digital_Infrastructure.pdf.

²⁷ Ministry of electronics and information technology, Digital India, available at <https://digitalindia.gov.in/>.

²⁸ Department of telecommunications, National Digital Communications Policy, 2018, available at <http://dot.gov.in/sites/default/files/EnglishPolicy-NDCP.pdf>.

²⁹ Ministry of electronics and information technology, Digital India, available at <https://digitalindia.gov.in/>.

³⁰ Department of telecommunications, National Digital Communications Policy 2018, available at <http://dot.gov.in/sites/default/files/EnglishPolicy-NDCP.pdf>.

³¹ Page 8, ministry of electronics and information technology, Digital India, available at https://negd.gov.in/sites/default/files/Running%20single%20file_0.pdf.

³² Page 8, ministry of electronics and information technology, Digital India, available at https://negd.gov.in/sites/default/files/Running%20single%20file_0.pdf.

³³ The vision is to ensure that there is a massive and growing penetration of mobile phones in India, especially in rural areas, which provides a ready and widespread base for access to and delivery of public services.

³⁴ This includes information and communication technology-enabled front-end service delivery points (kiosks) at the village level for delivery of government, financial, social and private sector services in the areas of agriculture, health, education, entertainment, banking, insurance, pension, utility payments, etc. See <https://digitalindia.gov.in/content/vision-and-vision-areas#>.

To realise its potential under the 'Digital India' programme, the government of India has launched several initiatives such as the National e-Governance Plan, 2006, which was relaunched in 2015 as 'e-Kranti: National e-Governance Plan 2.0'³⁵, BharatNet or Mahanet³⁶, the Common Service Centre scheme 2.0³⁷, the Electronic Development Fund ("EDF")³⁸, the Centre of Excellence for the internet of things, 2015³⁹, the Digi-Locker⁴⁰, the Digitize India Platform ("DIP")⁴¹, and the 'Single Window Interface for Trade' ("SWIT")⁴².

The NDCP 2018 is amongst the most recent and significant policy reforms for digital connectivity infrastructure launched by the Indian government⁴³. The NDCP 2018 proposes to restructure the legal, licensing and regulatory framework for connectivity and digital infrastructure in the country, including amendments to the Indian Telegraph Act, 1885 and related laws. Some of its key objectives are⁴⁴ (i) provisioning of broadband for all; (ii) creating four million additional jobs in the digital communications sector; (iii) enhancing the contribution of the digital communications sector to eight per cent of India's GDP; (iv) enhancing India's contribution to global value chains; and (v) ensuring digital sovereignty. Some of the highlights of the NDCP 2018 are as follows.

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- ³⁵ Approach and Key Components of e-Kranti: National e-Governance Plan 2.0, available at <http://pib.nic.in/newsite/PrintRelease.aspx?relid=117690>; Under e-Kranti, the number of mission mode projects (projects which have clearly defined objectives, scope, implementation timelines and milestones, as well as measurable outcomes and service levels) has increased from 31 (as set in 2006) to 44. See e-Kranti electronic delivery service, available at <https://digitalindia.gov.in/content/ekranti-electronic-delivery-services>.
- ³⁶ BharatNet, available at <http://www.bharatnet.in/>. It aims to provide broadband connectivity to gram panchayats. As of 13 December 2018, BharatNet has crossed the halfway mark and linked 1.2 lakh gram panchayats; SeeET Bureau, BharatNet crosses halfway mark, links 1.2 lakh panchayats, available at <https://economictimes.indiatimes.com/tech/internet/bharatnet-crosses-halfway-mark-links-1-2-lakh-panchayats/articleshow/67066989.cms?from=mdr>.
- ³⁷ The Common Service Centre scheme, available at <https://csc.gov.in/>. It aims to establish a self-sustaining network of 2.5 lakh Common Service Centres at the gram panchayat level to deliver citizen-centric services.
- ³⁸ Electronic Development Fund, available at <http://www.edfindia-canbankventure.com/about-edf.php>. This set up as a 'fund of funds' to provide risk capital to companies which are developing new technologies in the area of electronics, nanoelectronics and information technology.
- ³⁹ Ministry of electronics and information technology, Centre of Excellence of IoT, available at <http://www.coe-iot.com/>. This aims to jump start the internet of things ecosystem by taking advantage of India's information technology strengths.
- ⁴⁰ Ministry of electronics and information technology, DigiLocker available at <https://digilocker.gov.in/>. This is a flagship programme of the Indian government which aims to give citizens a shareable private space on a public cloud. It does so by leveraging the public cloud to make all documents readily available to users.
- ⁴¹ Digital India, Digitize India Platform, available at <https://digitizeindia.gov.in/>. The 'Digital India' platform extracts useful data from scanned images of government documents by identifying key data in every document and transcribing it into a machine-readable format.
- ⁴² Central board of excise and customs, circular no. 09/2015-Cus, dated 31 March 2015, available at https://www.icegate.gov.in/Download/Circular_No_09_2015_Cus.pdf. This acts as a single window mechanism to allow importers and exporters to seek online clearance of their documents at a single point of contact and aims to reduce interface with governmental agencies, time for approval and the cost of doing business.
- ⁴³ Department of telecommunications, National Digital Communications Policy 2018, available at <http://dot.gov.in/sites/default/files/EnglishPolicy-NDCP.pdf>.
- ⁴⁴ Page 4, Department of telecommunications, National Digital Communications Policy 2018 available at <http://dot.gov.in/sites/default/files/EnglishPolicy-NDCP.pdf>.

The NDCP 2018 makes key observations on harmonising certification, legal and regulatory standards applicable to telecom services⁴⁵, spectrum⁴⁶, and non-discriminatory treatment of data⁴⁷, fibre⁴⁸, active and passive infrastructure sharing⁴⁹, data protection⁵⁰, and cloud service providers⁵¹.

C. Recommendations

1. Prioritise the implementation of NDCP 2018 goals:

The NDCP 2018 is a forward-looking policy which seeks to create a much-needed roadmap for enabling the adoption of new and emerging technologies such as 5G, artificial intelligence, robotics, the internet of things ("IoT") and cloud computing. In order for its vision to be realised, the government must prioritise the adoption and implementation of its key recommendations. For instance, the policy recommends the development of "regulatory frameworks and incentives for promoting the establishment of International Data Centres, Content Delivery Networks and independent interconnect exchanges in India"⁵². It also emphasises the creation of enabling infrastructure for the convergence of information technology, telecommunications and broadcasting services⁵³. These are welcome steps which will provide a much-needed impetus to private sector participation in the development of India's digital connectivity infrastructure. The government has already taken significant steps towards realising these goals. For instance, the department of telecommunication ("DoT") has constituted committees to invite the views of different ministries on the policy's objectives⁵⁴. This progress is encouraging and we urge the government to continue to move at this pace to ensure that the recommendations of the NDCP 2018 are implemented in a time-bound manner, as this will allow India to move closer to its goal of becoming a 'Digital India'.

⁴⁵ Page 19, department of telecommunications, National Digital Communications Policy 2018 available at <http://dot.gov.in/sites/default/files/EnglishPolicy-NDCP.pdf>. It especially focusses on the Bureau of Indian Standards Act, 2016 and the Electronics & Information Technology Goods (Requirements for Compulsory Registration) Order, 2012, amongst others.

⁴⁶ Page 8, department of telecommunications, National Digital Communications Policy 2018 available at <http://dot.gov.in/sites/default/files/EnglishPolicy-NDCP.pdf>. The National Digital Communications Policy 2018 recognises the need to effectively utilize high capacity backhaul spectrum in E-Band (71-76/81-86 GHz) and V-Band (57-64MHz), the need to develop a transparent, normative and fair policy for spectrum assignments and allocations and the need to develop an optimal pricing of spectrum.

⁴⁷ Page 18, department of telecommunications, National Digital Communications Policy 2018 available at <http://dot.gov.in/sites/default/files/EnglishPolicy-NDCP.pdf>.

⁴⁸ Page 2, department of telecommunications, National Digital Communications Policy 2018 available at <http://dot.gov.in/sites/default/files/EnglishPolicy-NDCP.pdf>. The National Digital Communications Policy 2018 envisages an institutional mechanism between centre, state and local bodies for common right of way. It also proposes that a national fibre authority should be created under a larger framework of the 'National Digital Grid'. This would work to connect common service ducts and utility corridors in all cities along with highway road projects.

⁴⁹ Page 7, department of telecommunications, National Digital Communications Policy 2018 available at <http://dot.gov.in/sites/default/files/EnglishPolicy-NDCP.pdf>. The National Digital Communications Policy 2018 recommends incentivising this by enhancing the scope of the infrastructure providers registration category and promoting and incentivizing the deployment of common sharable active and passive infrastructure.

⁵⁰ Pages 18, 19 and 20, department of telecommunications, National Digital Communications Policy 2018 available at <http://dot.gov.in/sites/default/files/EnglishPolicy-NDCP.pdf>. It recommends amending various licenses and terms and conditions to incorporate privacy and data protection provisions, formulating a policy on encryption and data retention, facilitating the establishment of a 'Central Equipment Identity Registry' for addressing security theft and other concerns and establishing a 'Security Incident Management and Response System' for the digital communications sector.

⁵¹ Page 14, department of telecommunications, National Digital Communications Policy 2018 available at <http://dot.gov.in/sites/default/files/EnglishPolicy-NDCP.pdf>. The National Digital Communications Policy 2018 recommends that cloud service providers should be allowed to establish captive fibre networks.

⁵² Page 14, department of telecommunications, National Digital Communications Policy 2018 available at <http://dot.gov.in/sites/default/files/EnglishPolicy-NDCP.pdf>.

⁵³ Page 7, department of telecommunications, National Digital Communications Policy 2018 available at <http://dot.gov.in/sites/default/files/EnglishPolicy-NDCP.pdf>.

⁵⁴ Press Trust of India, Committees set up to address telcos' concerns: Telecom Secretary, available at <https://www.moneycontrol.com/news/business/committees-set-up-to-address-telcos-concerns-telecom-secretary-3108671.html>.

2. Reform the licensing and regulatory frameworks for telecommunications services:

In keeping with the MeitY's 'Trillion Dollar Digital Opportunity'⁵⁵ roadmap, the NDCP 2018 aims to enable the development of next generation technologies in India by attracting "investments of USD 100 Billion in the Digital Communications Sector". In order to realise this goal, the government must take concrete steps towards promoting the ease of doing business in India in critical sectors such as telecommunications. The NDCP 2018 proposes a number of progressive reforms for this purpose. For instance, it recommends the reduction of license and regulatory compliance requirements for telecommunications players, in keeping with international best practices⁵⁶. It also proposes simplifying the existing systems and procedures for the grant of licenses, approvals, clearances, permissions and the development of a comprehensive end-to-end online platform⁵⁷. These reforms should allow companies that are not traditional licensed telecommunications players to participate in the provision of telecom services. We recommend the adoption of a regulatory sliding scale for this purpose. This scale should apply different regulatory approaches to different categories of players, depending on the level of risk posed by these players to national security, privacy, law enforcement and foreign relations. For instance, companies that are involved with critical aspects of telecommunications, such as the management and use of active infrastructure, can continue to be subject to a licensing framework, while companies involved with the provision of relatively low-risk services can be allowed to engage with the provision of telecommunications services subject to light touch regulation or registration models.

3. Improve the efficiency of implementing agencies:

One of the key goals of the NDCP 2018 is the promotion of "Broadband for All"⁵⁸ for accelerating socio-economic development. It recommends establishing a national broadband mission for this purpose. The ability of agencies like Bharat Broadband Network Limited⁵⁹ to function efficiently and effectively will be a decisive factor in the realisation of the desired results under the NDCP 2018. The government should consider initiating a structural overhaul to bring in professional management and expertise at both the planning and implementation levels in order to ensure that this is taken care of⁶⁰.

⁵⁵ Ministry of electronics and information technology, India's Trillion Dollar Digital Economy, dated 20 February 2019, available at https://www.meity.gov.in/writereaddata/files/india_trillion-dollar_digital_opportunity.pdf.

⁵⁶ Page 13, department of telecommunications, National Digital Communications Policy 2018 available at <http://dot.gov.in/sites/default/files/EnglishPolicy-NDCP.pdf>.

⁵⁷ Page 13, department of telecommunications, National Digital Communications Policy 2018 available at <http://dot.gov.in/sites/default/files/EnglishPolicy-NDCP.pdf>.

⁵⁸ Page 4, department of telecommunications, National Digital Communications Policy 2018 available at <http://dot.gov.in/sites/default/files/EnglishPolicy-NDCP.pdf>.

⁵⁹ Telecom Regulatory Authority of India, Recommendations on Implementation Strategy for BharatNet, dated February 2016, available at <http://main.trai.gov.in/sites/default/files/Recommendations%20on%20BharatNet%2001.02.2016%20FINAL.pdf>.

⁶⁰ Telecom Regulatory Authority of India, Recommendations on Implementation Strategy for BharatNet, dated February 2016, available at <http://main.trai.gov.in/sites/default/files/Recommendations%20on%20BharatNet%2001.02.2016%20FINAL.pdf>

MOBILE DEVICE ECOSYSTEM

A. Context

India is the second largest market for smartphones in the world⁶¹. In 2018, smartphone shipments to India reached 33.5 million, growing by 19.8 per cent year-on-year⁶². Some reports indicate that electronics imports have exceeded gold imports to become India's second largest import category, after oil⁶³.

The value share of the mobile handsets industry in the total electronics segment in India is estimated to be nearly 35 per cent, which makes the mobile handsets industry the largest electronics vertical in the country⁶⁴. India now has 120 units manufacturing mobile phones compared to two units in 2014⁶⁵. Out of these, about 59 units are producing mobile handsets while the rest of them are engaged in manufacturing various components of mobile handsets, such as chargers, adapters, battery packs, wired headsets, and other

The value share of the mobile handsets industry in the total electronics segment in India is estimated to be nearly 35 per cent, which makes the mobile handsets industry the largest electronics vertical in the country.

mechanical parts⁶⁶. Around 225 million mobile handsets were manufactured in India in 2017-18 compared to 60 million in 2014-15⁶⁷. In value terms, the industry stood at USD 20 billion in 2017-18 compared to USD 2.99 billion in 2014-15⁶⁸. In volume terms, production grew to about 175 million in 2016-17 over 110 million in 2015-16, exhibiting a growth of about 60 per cent⁶⁹.

These numbers explain why a number of government schemes, policies and incentives in the recent past have prioritised the development of electronics manufacturing, and in particular the manufacturing capacity of the mobile devices industry in India. The aim has been to prepare India's readiness as a global mobile device manufacturing hub, with the hope of attracting takers for its potential export capacity in the near future.

B. Current state of law and policy

Over the years the government has taken several steps to promote the domestic manufacturing electronic device industry such as the introduction of the Modified Special Incentive Package ("M-SIPS")⁷⁰. The scheme mainly provides subsidies for investments in capital to the tune of 20 per cent for investments in special economic zones ("SEZs") and 25 per cent in non-SEZs⁷¹. Similarly, the Phased Manufacturing Programme ("PMP") was launched with the objective of promoting the indigenous manufacturing of mobile devices and its sub-parts/components⁷².

⁶¹ Ministry of electronics and information technology, Digital India, available at <https://digitalindia.gov.in/ebook/4years-achievements/#p=3>.

⁶² Press Trust of India, India smartphone market grows 20% in Q2 2018, Xiaomi leads tally: IDC, available at <https://economictimes.indiatimes.com/tech/hardware/india-smartphone-market-grows-20-in-q2-2018-xiaomi-leads-tally-idc/articleshow/65387140.cms>.

⁶³ V. Beniwal and A. Nag, Indians love buying electronics, and that's making the country's trade deficit worse, available at <https://www.hindustantimes.com/business-news/indians-love-buying-electronics-and-that-s-making-the-country-s-trade-deficit-worse/story-Usg4S9xfT2vxUyX4No8qEL.html>.

⁶⁴ Page 80, ministry of electronics and information technology, Electronics and Information Technology Annual Report (2017-18), available at https://meity.gov.in/writereaddata/files/Annual_Report_2017%E2%80%9318.pdf.

⁶⁵ Ministry of electronics and information technology, Digital India, available at <https://digitalindia.gov.in/ebook/4years-achievements/#p=3>.

⁶⁶ Page 79, ministry of electronics and information technology, Electronics and Information Technology Annual Report (2017-18), available at https://meity.gov.in/writereaddata/files/Annual_Report_2017%E2%80%9318.pdf.

⁶⁷ Page 82, ministry of electronics and information technology, Digital India, available at <https://digitalindia.gov.in/ebook/4years-achievements/#p=3>.

⁶⁸ Ministry of electronics and information technology, Digital India, available at <https://digitalindia.gov.in/ebook/4years-achievements/#p=3>.

⁶⁹ Page 80, ministry of electronics and information technology, Electronics and Information Technology Annual Report (2017-18), available at https://meity.gov.in/writereaddata/files/Annual_Report_2017%E2%80%9318.pdf.

⁷⁰ Ministry of electronics and information technology, Incentive Schemes, available at <https://meity.gov.in/esdm/incentive-schemes>.

⁷¹ Ministry of electronics and information technology, Incentive Schemes, available at <https://meity.gov.in/esdm/incentive-schemes>.

⁷² Ministry of electronics and information technology, Phased Manufacturing Program to promote indigenous manufacturing of Cellular Mobile Handsets, its sub-assemblies and parts/sub-parts/inputs of the sub-assemblies thereof, dated 28 April 2017, available at https://meity.gov.in/writereaddata/files/Notification_PMP_Cellular%20Mobile%20Handsets_28.04.2017.pdf.

This programme introduces differential excise duties for domestic mobile manufacturers, which provides an impetus to the domestic industry⁷³. Under the PMP differential excise duty dispensation, excise duty was enhanced to 11.5 per cent in favour of domestic cellular mobile handset manufacturers vis-a-vis imports in the Union Budget 2015-16⁷⁴. In February 2019, the Union Cabinet approved the National Policy on Electronics, 2019 (“**NPE 2019**”), which seeks to position India as a global hub for electronic system design and manufacturing (“**ESDM**”) by encouraging the manufacture of core components of electronic devices⁷⁵.

As per a recent press release from the ministry of commerce & industry, there are 127 manufacturing mobile handsets in the country and all of them are operating from the domestic tariff area (“**DTA**”)⁷⁶. As they are operating from the DTA, they enjoy the benefits (in addition to the incentives under the SEZ Act, 2005 & SEZ Rules, 2006) of a rationalised tariff structure under the PMP, availing benefits under the M-SIPS. Additionally, one hundred per cent foreign direct investment is permitted for the manufacture of mobile handsets and their sub-assemblies and nil basic customs duty is imposed on specified capital goods for the manufacture of mobile handsets⁷⁷. The government has also set up an EDF with a corpus of USD 320 million to provide risk capital for start-ups planning to develop new technology in electronics, nanoelectronics and information technology⁷⁸.

As for the sale of devices, the Electronics and Information Technology Goods (Requirement for Compulsory Registration) Order, 2012 (“**Registration Order**”), requires anyone who sells, imports or distributes devices to conform to the standards specified in the Registration Order⁷⁹. This specifically covers mobile phones, power adapters for IT equipment, power adapters for audio, video and similar electronic apparatus, sealed secondary cells and batteries containing alkaline or non-acid electrolytes for use in portable applications⁸⁰. In addition, MeitY also conducts surveillance of these goods⁸¹ to curb the sale of non-registered/non-compliant goods in the domestic market⁸².

C. Recommendations

1. Align various laws governing the device ecosystem:

Presently, there are a number of different laws and regulations governing the device ecosystem. Aligning all these requirements under one comprehensive umbrella scheme can greatly help with the ease of doing business, for both manufacturers and sellers of such devices⁸³. In particular, we recommend the establishment of a single window compliance mechanism for the registration and testing of mobile devices that are to be sold in India.

⁷³ Ministry of electronics and information technology, Phased Manufacturing Program to promote indigenous manufacturing of Cellular Mobile Handsets, its sub-assemblies and parts/sub-parts/inputs of the sub-assemblies thereof, dated 28 April 2017, available at https://meity.gov.in/writereaddata/files/Notification_PMP_Cellular%20Mobile%20Handsets_28.04.2017.pdf.

⁷⁴ Ministry of electronics and information technology, Phased Manufacturing Program to promote indigenous manufacturing of Cellular Mobile Handsets, its sub-assemblies and parts/sub-parts/inputs of the sub-assemblies thereof, dated 28 April 2017, available at https://meity.gov.in/writereaddata/files/Notification_PMP_Cellular%20Mobile%20Handsets_28.04.2017.pdf.

⁷⁵ Press information bureau, Cabinet approves the proposal of National Policy on Electronics 2019, dated 19 February 2019, available at <http://pib.nic.in/PressReleaseIframePage.aspx?PRID=1565285>.

⁷⁶ Ministry of commerce and industry, Manufacturing of Mobile Handsets, dated 11 February 2019, available at <http://www.pib.nic.in/Pressreleaseshare.aspx?PRID=1563771>.

⁷⁷ Ministry of commerce and industry, Manufacturing of Mobile Handsets, dated 11 February 2019, available at <http://www.pib.nic.in/Pressreleaseshare.aspx?PRID=1563771>.

⁷⁸ Ministry of electronics and information technology, Electronics Development Fund policy, available at <https://meity.gov.in/esdm/edf>.

⁷⁹ Ministry of electronics and information technology, Modified Surveillance Process under Electronics and Information Technology Goods Order 2012, available at <https://meity.gov.in/writereaddata/files/Market%20Surveillance%20Policy%20May%202018%20%28v1%29.pdf>.

⁸⁰ Ministry of communications and information technology notification, available at <https://meity.gov.in/writereaddata/files/Extension%20order.pdf>.

⁸¹ Ministry of electronics and information technology, Modified Surveillance Process under Electronics and Information Technology Goods Order 2012, available at <https://meity.gov.in/writereaddata/files/Market%20Surveillance%20Policy%20May%202018%20%28v1%29.pdf>.

⁸² Ministry of electronics and information technology, Modified Surveillance Process under Electronics and Information Technology Goods Order 2012, available at <https://meity.gov.in/writereaddata/files/Market%20Surveillance%20Policy%20May%202018%20%28v1%29.pdf>.

⁸³ PricewaterhouseCoopers, Amendments in SEZ rules notified, dated 30 September 2018, available at https://www.pwc.in/assets/pdfs/services/tax/indirect_news_alert/2018/pwc_news_alert_30_september_2018_amendment_in_sez_rules.pdf.

2. Simplify product testing and certification requirements for imported products:

At present, once a mobile device is manufactured or imported into India, it has to go through a number of agencies and regulations to be tested, certified and approved before it can enter the Indian market. Manufacturers and/or importers are thus required to incur significant costs for selling products in India, since these processes are expensive and time consuming. This can be especially cumbersome for the import of mobile devices from countries with higher standards of testing and certification (such as the European Union and the US), which already have strict standards of testing and certification for exported products. The existing regime in India requires the certification and approval of such devices in India again before they are allowed to sell in the Indian market⁸⁴. This creates redundancies and inefficiencies. Therefore, the existing regime should be modified to simplify the certification and approval requirements of mobile devices⁸⁵.

3. Create an export-focused manufacturing hub in India:

The growing digital economy has driven the demand for electronic products in India, which is expected to rise to USD 400 billion by 2025⁸⁶. In order to meet this increasing demand, the NPE 2019 recommends the creation of a globally competitive domestic electronics manufacturing hub in India, with a special emphasis on exports. This is in keeping with the government's 'Make in India'⁸⁷ vision and will enable India to become a global leader in the electronics manufacturing services segment. Therefore, the recommendations of the NPE 2019 must be implemented on a priority basis.

⁸⁴ J. Shenoy, Drop proposal for mandatory telecom equipment testing: ASSOCHAM, available at <https://timesofindia.indiatimes.com/business/india-business/drop-proposal-for-mandatory-telecom-equipment-testing-assocham/articleshow/59268442.cms>.

⁸⁵ J. Shenoy, Drop proposal for mandatory telecom equipment testing: ASSOCHAM, available at <https://timesofindia.indiatimes.com/business/india-business/drop-proposal-for-mandatory-telecom-equipment-testing-assocham/articleshow/59268442.cms>.

⁸⁶ Ministry of electronics and information technology, National policy on electronics 2019, dated 25 February 2019, available at https://meity.gov.in/writereaddata/files/eGazette_Notification_NPE%202019_dated%2025022019.pdf.

⁸⁷ Ministry of electronics and information technology, National policy on electronics 2019, dated 25 February 2019, available at https://meity.gov.in/writereaddata/files/eGazette_Notification_NPE%202019_dated%2025022019.pdf.

DIGITAL LITERACY AND CONSUMER AWARENESS

A. Context

In a country that is yet to achieve universal adult literacy, one may wonder as to why digital literacy should be considered important. The reason is simple: the number of active internet users in India is staggering. As of June 2018, the number of internet users in India was at 500 million⁸⁸. This number is expected to reach 627 million by the end of 2019. Thus, it is evident that the country is witness to an astounding growth of its digital population.

As of June 2018, the number of internet users in India was at 500 million.

While our accelerated digital growth is laudable, we cannot ignore the acute urban-rural divide which is an integral part of this growth. While urban India already has 295 million people using the internet, only 186 million Indians from rural India currently use the internet, even though it comprises a much larger share of the entire country's population⁸⁹. Of the 295 million internet users in urban India, the largest share comes from the top nine cities of the country⁹⁰. This context is important for understanding the impact of the digital literacy initiatives that have been discussed below.

B. Current state of law and policy

Digital literacy

The digital literacy policies that are currently being implemented within India fall under the 'Digital India' initiative. 'Universal digital literacy' is a key goal under this initiative⁹¹. It requires that at least one person should become e-literate in every household such that citizens have the ability to fully exploit digital technologies to empower themselves; and seek better livelihood opportunities to become economically secure.

The Pradhan Mantri Gramin Digital Saksharta Abhiyan or the National Digital Literacy Mission ("NDLM") scheme is another core part of the 'Digital India' initiative⁹². The NDLM, which focuses on rural communities⁹³ has been formulated to "impart IT training to 52.5 lakh persons, including Anganwadi and ASHA workers and authorised ration dealers in all the states/union territories across the country ..."⁹⁴. This is meant to ensure that citizens are IT literate, so that they can operate digital devices, send and receive emails, and search the internet for information. It also enables citizens to effectively access the different e-Governance services being offered by the government and other agencies⁹⁵.

⁸⁸ S. Agarwal, Internet users in India expected to reach 500 million by June: IAMAI, available at <https://economictimes.indiatimes.com/tech/internet/internet-users-in-india-expected-to-reach-500-million-by-june-iamai/articleshow/63000198.cms>.

⁸⁹ S. Agarwal, Internet users in India expected to reach 500 million by June: IAMAI, available at <https://economictimes.indiatimes.com/tech/internet/internet-users-in-india-expected-to-reach-500-million-by-june-iamai/articleshow/63000198.cms>.

⁹⁰ IANS, Acute urban-rural divide in internet penetration in India: Report, available at www.newindianexpress.com/nation/2018/feb/20/acute-urban-rural-divide-in-internet-penetration-in-india-report-1776295.html.

⁹¹ Ministry of electronics and information technology, Digital India, vision and vision areas, available at <https://digitalindia.gov.in/content/vision-and-vision-areas>.

⁹² Cabinet secretariat, Cabinet approves 'Pradhan Mantri Gramin Digital Saksharta Abhiyan' for covering 6 crore rural households, available at <http://pib.nic.in/newsite/PrintRelease.aspx?relid=158292>.

⁹³ National Institute of Electronics & Information Technology, Calicut, National Digital Literacy Mission, available at <http://nielit.gov.in/calicut/content/national-digital-literacy-mission-ndlm>.

⁹⁴ The National Digital Literacy Mission is primarily focused on rural communities and citizens from the lower income groups as the eligibility criteria is non-information technology literate, illiterate and up to 7th/8th standard pass. This information is available at <http://nielit.gov.in/calicut/content/national-digital-literacy-mission-ndlm>.

⁹⁵ National Institute of Electronics & Information Technology, Calicut, National Digital Literacy Mission, available at <http://nielit.gov.in/calicut/content/national-digital-literacy-mission-ndlm>.

In 2019, the Ministry of Human Resource Development (“MHRD”) released the National Education Policy, 2019 (“NEP”)⁹⁶, which covers elementary education for colleges in both rural and urban India. This policy acknowledges that there is a need to reorient the content and process of school education to include several factors including digital literacy. On the issue of digital literacy, the NEP provides that the “new curriculum will integrate digital literacy for all learners at the basic level, keeping in mind the available digital infrastructure on the ground”⁹⁷. Additionally, in order to integrate digital devices and the use of IT within the existing education system the government of India launched e-Basta in July 2015, which creates a framework for making school books accessible in the digital form as e-books to be read and used on tablets and laptops⁹⁸.

Protection of consumer rights

Diverting resources towards increasing digital literacy must be accompanied by a commensurate effort towards tackling the issue of protecting consumer rights in the digital space. This is addressed by the proposed the Consumer Protection Bill, 2018 (“CPB, 2018”). Unlike the Consumer Protection Act, 1986 (“CPA, 1986”), which does not make any express reference to online consumer or e-commerce transactions, the CPB, 2018 explicitly protects digital consumers⁹⁹. It also accounts for unfair trade practices that can occur through e-commerce transactions and electronic service providers. This is a welcome step forward, since it leaves no room for ambiguity on the issue of the applicability of the CPB, 2018 in the digital sphere.

C. Recommendations

1. Implement a national digital literacy strategy:

Digital literacy is an umbrella concept that covers different ‘skill clusters’¹⁰⁰ such as computer literacy, information communication technology (“ICT”) literacy, information literacy, and media literacy¹⁰¹. A robust digital literacy program, which is effectively implemented, will ensure that there is awareness and protection of consumer rights. Therefore, there is a need to develop a national digital literacy and education strategy which takes into account the fact that there is a need to integrate therequirements of a variety of stakeholders and disseminate the information at various levels. In this context, it is important to remember that there is no “[O]ne-size-fits-all assessment of digital competence that can serve all purposes and contexts”¹⁰².

⁹⁶ Ministry of human resource development, Draft National Education Policy 2019, available at https://mhrd.gov.in/sites/upload_files/mhrd/files/Draft_NEP_2019_EN_Revised.pdf.

⁹⁷ Para 4.6.7, ministry of human resource development, Draft National Education Policy 2019, available at <https://innovate.mygov.in/wp-content/uploads/2019/06/mygov15596510111.pdf>.

⁹⁸ Ministry of electronics and information technology, e-Basta, available at <https://www.ebasta.in/>.

⁹⁹ Explanation (b) to Section 2(7), ministry of corporate affairs, the Consumer Protection Bill, 2018, available at http://164.100.47.4/BillsTexts/LSBillTexts/Asintroduced/1_2018_LS_Eng.pdf.

¹⁰⁰ United Nations Educational, Scientific and Cultural Organization, Digital Literacy in Education, available at https://iite.unesco.org/files/policy_briefs/pdf/en/digital_literacy.pdf.

¹⁰¹ Definition of digital literacy adopted by Global Alliance to Monitor Learning (GAML), an initiative to support national strategies for measuring learning and enable international reporting, led by the UNESCO Institute for Statistics (UIS). GAML brings together UN member states, international technical expertise, and a full range of implementation partners – donors, civil society, UN agencies, and the private sector – to improve learning assessments globally. Available at

<http://gaml.uis.unesco.org/wp-content/uploads/sites/2/2018/10/GAML-5-Report.pdf>.

¹⁰² Definition of digital literacy adopted by Global Alliance to Monitor Learning (GAML), an initiative to support national strategies for measuring learning and enable international reporting, led by the UNESCO Institute for Statistics (UIS). GAML brings together UN member states, international technical expertise, and a full range of implementation partners – donors, civil society, UN agencies, and the private sector – to improve learning assessments globally. Available at <http://gaml.uis.unesco.org/wp-content/uploads/sites/2/2018/10/GAML-5-Report.pdf>.

2. Approach digital literacy in a holistic manner:

The digital literacy policies and programmes implemented in India at present focus primarily on the rural population and hence primarily on integrating computer based learning and digital skills. We need to look at digital literacy in a more holistic manner. The definition of the term 'digital literacy' adopted by the Global Alliance to Monitor Learning ("GAML") summarises it well: *"digital literacy is the ability to access, manage, understand, integrate, communicate, evaluate and create information safely and appropriately through digital devices and networked technologies for participation in economic and social life"*¹⁰³. Therefore, there needs to be a more integrated approach in dealing with this issue. A phased approach which looks at the distinct requirements of the different target demographic groups, types of population (urban and rural), end use of the digital medium, and impact on employability may helpful in devising a pragmatic and sustainable approach.

3. Address lack of awareness regarding grievance redressal procedures:

On the issue of consumer rights, the CPB, 2018 is a step in the right direction, as it takes into account the existence of the digital consumer. There is also a lack awareness of grievance redressal mechanisms for online transactions and the manner of enforcement of consumer rights. This coupled with the high rate of cybercrimes comes in the way of ensuring continued growth of digital penetration in India. We recommend encouraging public-private partnerships to create more awareness on the routes for grievance redressal to remedy this problem.

¹⁰³ Definition of digital literacy adopted by Global Alliance to Monitor Learning (GAML), an initiative to support national strategies for measuring learning and enable international reporting, led by the UNESCO Institute for Statistics (UIS), GAML brings together UN member states, international technical expertise, and a full range of implementation partners – donors, civil society, UN agencies, and the private sector – to improve learning assessments globally information accessed from <http://gaml.uis.unesco.org/wp-content/uploads/sites/2/2018/10/GAML-5-Report.pdf>.

The background is a solid blue color with white, stylized circuit traces. These traces are composed of straight lines that change direction at right angles, creating a complex, interconnected pattern. Some lines end in small white circles, resembling solder points or vias. The traces are distributed across the page, with some forming a grid-like structure in the upper left and others branching out more freely in the lower half.

SECTION : II

DIGITAL ECONOMY POLICY

Overview

This section focuses on key areas in the digital economy policy ecosystem to assess the status quo and identify challenges that need to be addressed, and offers recommendations to tackle these. We have identified eight priority areas, namely, data governance, cyber-security, encryption and surveillance, cloud computing; emerging technologies, digital payments, platform regulation, and evolving issues relating to competition law and digital taxation. Each of these areas is a critical part of the digital economy, the growth of which is vital for the realisation of the Prime Minister's vision of a USD 5 trillion worth Indian economy. In this report, we have discussed these key areas as follows:

1. Data governance, which includes an overview of developments in the regulation of data protection and privacy in the country. This sub-section also highlights challenges and recommendations for the government's consideration.
2. Cyber security, which focuses on the regulation of online security in the digital economy. This sub-section also highlights challenges and recommendations for the government's consideration.
3. Encryption and surveillance, which focuses on the steps taken by the government to secure encryption and regulate electronic surveillance. This sub-section also highlights challenges and recommendations for the government's consideration.
4. Cloud computing, which focuses on the development of cloud services in the country. This sub-section also highlights challenges and recommendations for the government's consideration.
5. Emerging technologies, which focuses on the development of artificial intelligence and the internet of things. This sub-section also highlights challenges and recommendations for the government's consideration.
6. Digital payments, which focuses on the regulatory framework that oversees digital transactions, with a focus on abating systemic risks. This sub-section also highlights challenges and recommendations for the government's consideration.
7. Platform regulation, which focuses on the regulation of intermediaries and online content. This sub-section also highlights challenges and recommendations for the government's consideration.
8. Competition law and digital taxation, which focuses on evolving issues in the areas of competition and digital taxation, insofar as they relate to the digital economy. This sub-section also highlights challenges and recommendations for the government's consideration.

DATA GOVERNANCE

A. Context

As of June 2019, India does not have a specific legislation that regulates data protection. Currently, all categories of personal data do not have guaranteed protections against breaches of privacy, confidentiality and security under the Information Technology (“IT”) Act¹⁰⁴. This is set to change with the enactment of the proposed Personal Data Protection Bill, 2018 (“PDP Bill”), which is due to be tabled in the Indian Parliament on a priority basis, as per the IT minister Shri. Ravi Shankar Prasad¹⁰⁵.

The constitution of the committee of experts under the chairmanship of Justice B.N. Srikrishna (“Srikrishna Committee”) in July 2017 was a significant first step towards the creation of a comprehensive national data protection regime.

The constitution of the committee of experts under the chairmanship of Justice B.N. Srikrishna (“Srikrishna Committee”) in July 2017 was a significant first step towards the creation of a comprehensive national data protection regime¹⁰⁶. This was followed by the Indian supreme court’s recognition of the right to privacy as a fundamental right in the case of *Puttaswamy v. Union of India*¹⁰⁷. Within four months of the constitution of the Srikrishna Committee, it released a white paper seeking stakeholder comments on over 200 questions¹⁰⁸. Following a period of robust public stakeholder consultations, the Srikrishna Committee submitted its final report to the ministry of electronics and information technology (“MeitY”) in July 2018¹⁰⁹. This report proposed recommendations for what a national data protection framework should look like. In keeping

with the Srikrishna Committee’s terms of reference¹¹⁰ the report also contained a draft personal data protection law, to which MeitY sought further feedback¹¹¹.

This draft personal data protection law must be tabled in the Indian parliament and approved before it can be enacted¹¹². In the meantime, different regulators have attempted to develop data protection and governance frameworks for their specific sectors. These developments have been discussed in detail below.

B. Current state of law and policy

Existing legal framework under the IT Act, 2000:

The IT Act is presently the only industry-agnostic law that protects the confidentiality, privacy and security of information across sectors.

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¹⁰⁴ Section 43A, Information Technology Act, 2000.

¹⁰⁵ A.S. Mankotia, Ravi Shankar Prasad to ‘quickly’ table data protection bill, notify norms, available at <https://economictimes.indiatimes.com/tech/internet/priority-to-quickly-take-data-protection-bill-to-parliament-new-it-minister-ravi-shankar-prasad/articleshow/69596440.cms>.

¹⁰⁶ Ministry of electronics and information technology, Letter constituting a committee of experts to deliberate on a data protection framework for India, dated 31 July 2017, available at https://meity.gov.in/writereaddata/files/MeitY_constitution_Expert_Committee_31.07.2017.pdf.

¹⁰⁷ K.S. Puttaswamy v. Union of India, (2017) 10 SCC 1.

¹⁰⁸ White Paper of the committee of experts on a data protection framework for India, dated 29 November 2017, available at http://meity.gov.in/writereaddata/files/white_paper_on_data_protection_in_india_18122017_final_v2.1.pdf.

¹⁰⁹ Final report of the committee of experts on a data protection framework for India, dated 27 July 2018, available at https://meity.gov.in/writereaddata/files/Data_Protection_Committee_Report.pdf.

¹¹⁰ Ministry of electronics and information technology, Letter constituting a committee of experts to deliberate on a data protection framework for India, dated 31 July 2017 available at https://meity.gov.in/writereaddata/files/MeitY_constitution_Expert_Committee_31.07.2017.pdf.

¹¹¹ Ministry of electronics and information technology, Feedback on draft Personal Data Protection Bill, dated 14 August 2018, available at <https://www.meity.gov.in/content/feedback-draft-personal-data-protection-bill>.

¹¹² S. Agarwal, Personal Data Protection Bill only after new government takes over, available at <https://economictimes.indiatimes.com/tech/internet/personal-data-protection-bill-only-after-new-government-takes-over/articleshow/67374919.cms>.

Specifically, section 43A of the IT Act requires companies to implement reasonable security practices when dealing with sensitive personal data or information (such as passwords and financial information)¹¹³, failing which they can be required to pay damages to the affected persons¹¹⁴. The Information Technology (Reasonable Security Practices and Procedures and Sensitive Personal Data or Information) Rules, 2011 (“**SPDI Rules**”) notified under section 43A of the IT Act further regulate the collection, disclosure and transfer of sensitive personal data or information¹¹⁵. Section 72A of the IT Act protects the confidentiality of personal information by penalising the disclosure of such information, if the disclosure is non-consensual or in breach of a lawful contract¹¹⁶.

The PDP Bill

The data protection principles recommended by the report of the committee of experts on data protection (“**Srikrishna Committee Report**”) are codified under the draft PDP Bill. This draft law creates a data governance framework that consists primarily of three players: (a) data fiduciaries (those who control the purpose and means of processing personal data, hereinafter referred to as “**DFs**”)¹¹⁷; (b) data processors (those who process personal data on behalf of DFs, hereinafter referred to as “**DPs**”)¹¹⁸; and (c) data principals (those whose personal data is processed by DFs or DPs)¹¹⁹. As the term suggests, DFs and data principals share a fiduciary relationship under the PDP Bill, meaning that the DF owes a duty of care to the data principal, and

must act in their interests. This envisages a scenario where the rights of data principal must therefore be respected by law, and where the inequality in bargaining power between individuals and entities that process personal data is mitigated¹²⁰. The PDP Bill contains a number of other checks and balances to ensure that the interests of data principals are protected. For instance, DFs are required to process the personal data of data principals in a fair and reasonable manner¹²¹, on the basis of legal grounds¹²², and only for purposes that are clear, specific and lawful¹²³. Additionally, data principals are granted various rights, such as the right to be forgotten¹²⁴, right to data portability¹²⁵, the right to confirm whether DFs are processing/have processed their data, and to receive a brief summary of such personal data and the processing activities of such DFs¹²⁶.

As the term suggests, DFs and data principals share a fiduciary relationship under the PDP Bill, meaning that the DF owes a duty of care to the data principal, and must act in their interests.

¹¹³ Rule 3, Information Technology (Reasonable Security Practices and Procedures and Sensitive Personal Data or Information) Rules, 2011: “Sensitive personal data or information of a person means such personal information which consists of information relating to:—(i) password; (ii) financial information such as bank account or credit card or debit card or other payment instrument details; (iii) physical, physiological and mental health condition; (iv) sexual orientation; (v) medical records and history; (vi) Biometric information; (vii) any detail relating to the above clauses as provided to body corporate for providing service; and (viii) any of the information received under above clauses by body corporate for processing, stored or processed under lawful contract or otherwise: provided that, any information that is freely available or accessible in public domain or furnished under the Right to Information Act, 2005 or any other law for the time being in force shall not be regarded as sensitive personal data or information for the purposes of these rules.”

¹¹⁴ Section 43A, Information Technology Act, 2000.

¹¹⁵ The Information Technology (Reasonable Security Practices and Procedures and Sensitive Personal Data or Information) Rules, 2011.

¹¹⁶ Section 72A, Information Technology Act, 2000.

¹¹⁷ Section 3(13), ministry of electronics and information technology, the Personal Data Protection Bill, 2018 available at https://meity.gov.in/writereaddata/files/Personal_Data_Protection_Bill,2018.pdf.

¹¹⁸ Section 3(15), ministry of electronics and information technology, the Personal Data Protection Bill, 2018 available at https://meity.gov.in/writereaddata/files/Personal_Data_Protection_Bill,2018.pdf.

¹¹⁹ Section 3(14), ministry of electronics and information technology, the Personal Data Protection Bill, 2018 available at https://meity.gov.in/writereaddata/files/Personal_Data_Protection_Bill,2018.pdf.

¹²⁰ Final report of the committee of experts on a data protection framework for India, dated 27 July 2018, available at https://meity.gov.in/writereaddata/files/Data_Protection_Committee_Report.pdf.

¹²¹ Section 4, ministry of electronics and information technology, the Personal Data Protection Bill, 2018 available at https://meity.gov.in/writereaddata/files/Personal_Data_Protection_Bill,2018.pdf.

¹²² Section 7, ministry of electronics and information technology, the Personal Data Protection Bill, 2018 available at https://meity.gov.in/writereaddata/files/Personal_Data_Protection_Bill,2018.pdf.

¹²³ Section 5, ministry of electronics and information technology, the Personal Data Protection Bill, 2018 available at https://meity.gov.in/writereaddata/files/Personal_Data_Protection_Bill,2018.pdf.

¹²⁴ Section 27(1), ministry of electronics and information technology, the Personal Data Protection Bill, 2018 available at https://meity.gov.in/writereaddata/files/Personal_Data_Protection_Bill,2018.pdf.

¹²⁵ Section 26(1)(a) & (b), ministry of electronics and information technology, the Personal Data Protection Bill, 2018 available at https://meity.gov.in/writereaddata/files/Personal_Data_Protection_Bill,2018.pdf.

¹²⁶ Section 24(1), ministry of electronics and information technology, the Personal Data Protection Bill, 2018 available at https://meity.gov.in/writereaddata/files/Personal_Data_Protection_Bill,2018.pdf.

The RBI's data localisation circular

In April 2018, the Reserve Bank of India ("RBI") issued a notification mandating that all data related to payment systems be locally stored only in India¹²⁷. All payment system providers were required to comply with this notification within six months, i.e., by October 2018¹²⁸. In stark contrast to the Srikrishna Committee's relatively open and inclusive consultations, this was a unilateral decision taken by RBI. Several payment companies expressed concerns about the lack of transparency in RBI's decision-making process for this particular mandate and its refusal to extend the six-month deadline for compliance¹²⁹, without a publicly available cost-benefit analysis to justify the move. Such opaque decision-making processes run the danger of ignoring potential negative consequences on the country's economy.

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Telecom Regulatory Authority of India's privacy recommendations

Separately, in July 2018, the Telecom Regulatory Authority of India ("TRAI") released its own 'Recommendations on privacy, data security, and data ownership in the telecom sector'¹³⁰ ("TRAI Recommendations"). These recommendations were the product of a nearly year-long consultation process initiated by TRAI in August 2017¹³¹. However, the TRAI recommendations differ from the Srikrishna Committee recommendations and the frameworks incorporated under the PDP Bill on several counts¹³².

Draft E-Commerce Policy

The latest attempt at developing sector-specific data governance principles was made by the department for promotion of industry and internal trade ("DPIIT") under the ministry of commerce and industry, when it released a draft version of the National E-Commerce Policy ("Draft E-Commerce Policy")¹³³. As with the TRAI Recommendations, the Draft E-Commerce Policy's recommendations on data governance also go over and above the standards prescribed under the PDP Bill. For instance, the Draft E-Commerce Policy specifies that any business entity that collects or processes sensitive data in India and stores it abroad must ensure that the data stored abroad is not shared with other business entities outside India, for any purpose, even with customer consent¹³⁴. It also provides that all such data stored abroad should not be made available to third parties, for any purpose, regardless of customer consent¹³⁵.

¹²⁷ Reserve Bank of India, Notification regarding the Storage of Payment Systems Data, dated 6 April 2018, available at <https://www.rbi.org.in/Scripts/NotificationUser.aspx?Id=11244&Mode=0>.

¹²⁸ Reserve Bank of India, Notification regarding the Storage of Payment Systems Data, dated 6 April 2018, available at <https://www.rbi.org.in/Scripts/NotificationUser.aspx?Id=11244&Mode=0>.

¹²⁹ Mail Today Bureau, RBI's local data storage norms kick in today; foreign firms seek more time, available at <https://www.businesstoday.in/current/corporate/rbi-local-data-storage-norms-kick-in-today-firms-see-more-time/story/285101.html>.

¹³⁰ Telecom Regulatory Authority of India, Recommendations on Privacy, Security and Ownership of the Data in the Telecom Sector, dated 16 July 2018, available at https://main.traai.gov.in/sites/default/files/RecommendationDataPrivacy16072018_0.pdf.

¹³¹ Telecom Regulatory Authority of India, TRAI releases consultation paper on "Privacy, Security and Ownership of the Data in the Telecom Sector", dated 9 August 2017, available at https://main.traai.gov.in/sites/default/files/Press_Release_09082017_0.pdf.

¹³² N. Chaudhari, What will be the fate of TRAI recommendations and the RBI circular after the Personal Data Protection Bill, 2018 is enacted, available at <https://inc42.com/resources/what-will-be-the-fate-of-trai-recommendations-and-the-rbi-circular-after-the-pdp-bill-is-enacted/>.

¹³³ Department for promotion of industry and internal trade, Draft National E-commerce policy, dated 23 February 2019, available at https://dipp.gov.in/sites/default/files/DraftNational_e-commerce_Policy_23February2019.pdf.

¹³⁴ Page 16, Department for promotion of industry and internal trade, Draft National E-commerce policy, dated 23 February 2019, available at https://dipp.gov.in/sites/default/files/DraftNational_e-commerce_Policy_23February2019.pdf.

¹³⁵ Page 16, Department for promotion of industry and internal trade, Draft National E-commerce policy, dated 23 February 2019, available at https://dipp.gov.in/sites/default/files/DraftNational_e-commerce_Policy_23February2019.pdf.

This recommendation overlooks the Srikrishna Committee's views on the treatment of Sensitive Personal Data ("SPD") and cross-border flows of such data¹³⁶. The bar on the sharing of sensitive data, regardless of customer consent, ignores the Srikrishna Committee's views on the importance of consent and contradicts the Draft E-Commerce Policy's own stance that data is owned by individuals alone and requires their express consent for it to be shared¹³⁷. Additionally, the policy's recommendation of a three-year time-frame for transitioning to storage in India appears to be short-sighted and requires reconsideration¹³⁸.

C. RECOMMENDATIONS

1. Harmonise the data governance frameworks under different instruments

The regulatory instruments on data governance adopted and proposed by the government have differing stances on a number of critical issues, which may lead to regulatory uncertainty. For instance, the Draft E-Commerce Policy differs from the PDP Bill on several important aspects, such as consent¹³⁹, categorisation of personal data¹⁴⁰, the relationships between data principals and DFs¹⁴¹, the meaning of 'community data'¹⁴² and cross-border flows of data¹⁴³. Similarly, the RBI data localisation mandate differs from the PDP Bill on its approach towards data transfers¹⁴⁴. These inconsistencies will create uncertainty in the law, which in turn will affect the ease of doing business in India and stifle economic growth in the country¹⁴⁵. Therefore, it is recommended that all government policies on data governance should be harmonised in keeping with the frameworks suggested by the Srikrishna Committee and the PDP Bill, as these will serve as the basis for the national law on data protection.

2. Reconsider the imposition of data localisation

All the legislative and policy developments on data governance in the country thus far have advocated data localisation, i.e., the storage of personal data on servers located in India. However, there are a number of concerns with operationalising data localisation. First, the storage of all the country's critical data within India runs the risk of creating a "honeypot"¹⁴⁶ of such data, which is vulnerable to cyber-attacks, foreign surveillance and other threats¹⁴⁷.

¹³⁶ Chapter 3, Final report of the committee of experts on a data protection framework for India, dated 27 July 2018, available at https://meity.gov.in/writereaddata/files/Data_Protection_Committee_Report.pdf.

¹³⁷ Page 14, Department for promotion of industry and internal trade, Draft National E-commerce policy, dated 23 February 2019, available at https://dipp.gov.in/sites/default/files/DraftNational_e-commerce_Policy_23February2019.pdf.

¹³⁸ T. Joshi, Data localisation rears its head yet again in the e-commerce policy, dated 26 March 2019, available at <https://www.medianama.com/2019/03/223-data-localisation-rears-its-head-yet-again-in-the-e-commerce-policy-tuhina-joshi/>.

¹³⁹ The Draft E-Commerce Policy, 2019, dated 23 February 2019 stresses that an individual's data can only be used with their express consent. This observation contradicts the data governance framework under the Personal Data Protection Bill, 2018 on two counts. First, it uses the term 'data' without explaining whether an individual's data represents their personal data or their sensitive personal data, both of which require different standards of consent for processing under the Personal Data Protection Bill, 2018. Second, it squarely contradicts the Personal Data Protection Bill, 2018 which makes it clear that express consent is only required for the processing of sensitive personal data, and not personal data.

¹⁴⁰ As explained above, the Draft E-Commerce Policy, 2019, dated 23 February 2019, uses the term 'data' without explaining whether an individual's data represents their personal data or their sensitive personal data.

¹⁴¹ The Draft E-Commerce Policy, 2019, dated 23 February 2019, states that the government is the gatekeeper of citizens' data, since it holds their data in trust. This approach is completely inconsistent with the frameworks laid down under Personal Data Protection Bill, 2018, which creates a fiduciary relationship between data fiduciaries and data principals.

¹⁴² The Draft E-Commerce Policy, 2019, dated 23 February 2019, recommends the creation of frameworks for sharing 'community data', a term which is left undefined. No such term has been referred to under the Personal Data Protection Bill, 2018, creating uncertainty as regards the meaning of 'community data' and the interaction of data sharing frameworks for such data under the Draft E-Commerce Policy, 2019 with the data governance frameworks under the Personal Data Protection Bill, 2018.

¹⁴³ The recommendations of the Draft E-Commerce Policy, 2019, dated 23 February 2019 on cross-border data flows go over and above the standards prescribed under the Personal Data Protection Bill, 2018, without the backing of an accompanying law.

¹⁴⁴ While the Reserve Bank of India data localisation mandate requires all data relating to payment systems in India to be stored only in India, the Personal Data Protection Bill, 2018 allows for the transfer of personal data and sensitive personal data under certain conditions.

¹⁴⁵ A. Javadekar, Why the ease of doing business matters, available at <https://www.livemint.com/Opinion/ZFP18NIFA8Up0s8FPQySL/Why-the-ease-of-doing-business-matters.html>.

¹⁴⁶ The Centre for Internet and Society, The Localisation Gambit: Unpacking Policy Measures for Sovereign Control of Data in India, available at <https://cis-india.org/internet-governance/resources/the-localisation-gambit.pdf>.

¹⁴⁷ The Centre for Internet and Society, The Localisation Gambit: Unpacking Policy Measures for Sovereign Control of Data in India, available at <https://cis-india.org/internet-governance/resources/the-localisation-gambit.pdf>.

Second, data localisation may have potentially harmful consequences for the Indian economy¹⁴⁸. For instance, a study by the Leviathan Security Group has found that for many countries that are considering or have considered mandatory data localisation laws, local companies would be required to pay 30-60 per cent more for their computing needs than if they could go outside the country's borders¹⁴⁹. The European Centre for International Political Economy ("ECIPE") has also found that economy-wide data localisation laws drain between 0.7 per cent and 1.1 per cent of GDP from the economy for no benefit, since "*any gains stemming from data localisation are too small to outweigh losses in terms of welfare and output in the general economy*"¹⁵⁰.

Given the harmful consequences associated with mandatory data localisation, it is recommended that the government should reconsider the imposition of 'hard' data localisation. Alternatively, an incentive framework should be created to incentivise a voluntary shift to storage on local data servers in India in the long term, without disrupting ease of doing business in the country.

3. Reimagine consent for the digital age

Consent is one of the six legal grounds on the basis of which DFs can process personal data under the PDP Bill¹⁵¹. This consent must be secured through a detailed notice that is provided no later than at the time of collection of personal data¹⁵². Requiring DFs to provide extremely detailed notices at the time of collection of personal data creates a number of problems. For instance, it can lead to consent fatigue¹⁵³ in cases where data collection takes place at multiple points over the same transaction, since notices will have to be provided each time the data is collected. This will undermine the data principal's ability to give meaningful and informed consent, since the amount of information provided with each notice is extensive. Given the vast amounts of personal data that is processed every day for each data principal, it is arguable that seeking a data principal's consent is no longer the best way to safeguard their privacy interests¹⁵⁴. The multiplicity of notices required under the PDP Bill may also stifle entrepreneurship in the country since many boot-strapped start-ups will lack the financial wherewithal to operationalise this requirement.

In order to tackle these concerns, it is suggested that an accountability-based model, where a higher degree of responsibility may be assigned to DFs, be considered for securing the interests of data principals. For instance, DFs must be responsible for the personal data that they collect and process. Further, the burden of evaluating the privacy risk that arises from the processing of a data principal's personal data must fall on the DFs, instead of on the data principals, and remedies should be offered to principals for privacy harms suffered, regardless of whether they were notified and gave consent¹⁵⁵.

4. Encourage cross-border flows

The PDP Bill, the RBI data localisation mandate and the Draft E-Commerce Policy, 2019 all place a number of restrictions on cross-border data flows that will lead to loss of market access and the latest technology by businesses in India, particularly startups¹⁵⁶. Such fetters may also reduce access to global cloud service platforms, application programming interfaces and analytical tools that are available in other jurisdictions¹⁵⁷.

¹⁴⁸ The Centre for Internet and Society, The Localisation Gambit: Unpacking Policy Measures for Sovereign Control of Data in India, available at <https://cis-india.org/internet-governance/resources/the-localisation-gambit.pdf>.

¹⁴⁹ Leviathan Security Group, Quantifying the cost of forced localisation, available at <https://static1.squarespace.com/static/556340e4b0869396f21099/t/559dad76e4b0899d97726a8b/1436396918881/Quantifying+the+Cost+of+Forced+Localisation.pdf>.

¹⁵⁰ The European Centre for International Political Economy, The costs of data localisation: A friendly fire on economic recovery, available at <https://ecipe.org/publications/dataloc/>.

¹⁵¹ Section 12, ministry of electronics and information technology, the Personal Data Protection Bill, 2018 available at https://meity.gov.in/writereaddata/files/Personal_Data_Protection_Bill,2018.pdf.

¹⁵² Section 8(1), ministry of electronics and information technology, the Personal Data Protection Bill, 2018 (Note: data fiduciaries can provide data principals with a notice as soon as is reasonably practicable, if the data is not collected from the data principal.), available at https://meity.gov.in/writereaddata/files/Personal_Data_Protection_Bill,2018.pdf.

¹⁵³ R. Matthan, Beyond consent: A new paradigm for data protection, available at <https://takshashila.org.in/wp-content/uploads/2017/07/TDD-Beyond-Consent-Data-Protection-RM-2017-03.pdf>.

¹⁵⁴ R. Matthan, Consent is dead, available at <https://www.livemint.com/Opinion/621SQ382WPGJKKBOHQrWHK/Consent-is-dead.html>.

¹⁵⁵ R. Matthan, Beyond consent: A new paradigm for data protection, Takshashila Institution, available at <http://takshashila.org.in/wp-content/uploads/2017/07/TDD-Beyond-Consent-Data-Protection-RM-2017-03.pdf>.

¹⁵⁶ Comments of Internet and Mobile Association of India, Consultation Paper on Privacy, Security and Ownership of the Data in the Telecom, available at http://main.trai.gov.in/sites/default/files/IAMAI_07112017.pdf.

¹⁵⁷ Comments of Business Software Alliance, White Paper of the Committee of Experts on a Data Protection Framework for India, available at <http://www.bsa.org/~media/Files/Policy/Data/012918BSAResponseofWhitePaperDataPortectionFrameworkIndia.pdf>.

This may affect the competitiveness of Indian startups by reducing their ability to innovate, work efficiently and balance operational costs against their earnings. Restricting cross-border flows of data may even reduce access to global technological developments, such as developments relating to blockchain or artificial intelligence. In fact, the NITI Aayog in its National Strategy for Artificial Intelligence (“**AI Strategy**”) noted that there is a shortage of “*AI expertise, manpower and skilling opportunities in India*”¹⁵⁸. Thus, there is a need to focus on increasing expertise in AI and its adoption in India. The PDP Bill may adversely affect the goals of the AI Strategy if businesses are prevented from using AI based technology available outside India due to restrictions on cross border data flow.

Instead of restricting cross-border flows of data, inter-governmental measures that are based on a common set of norms (such as mutual recognition of domestic privacy laws, law enforcement co-operations and accountability) may be adopted to enable cross border data flows in India. The Asia Pacific Economic Co-operation (“**APEC**”) Cross-Border Privacy Rules¹⁵⁹ are an example of one such inter-governmental measure that may be adopted. The government should also consider the creation of a ‘privacy shield’ framework, along the lines of the EU-US and Swiss-US frameworks¹⁶⁰, to encourage the smooth transfer of data between foreign and Indian companies. Further, the government should back the use of standard contractual clauses to facilitate cross-border flows of data. In order to facilitate cross-border transfers of data, the government can explore multilateral and bilateral avenues of effective co-operation between different countries. Further, existing instruments such as Mutual Legal Assistance Treaties (“**MLAT**”) ¹⁶¹ should be strengthened as well.

5. Remove criminal penalties

Offences under the PDP Bill are punishable with criminal penalties that include imprisonment sentences of up to 5 years¹⁶². Such penalties are excessively harsh and disproportionate, particularly since the civil penalties themselves function as effective deterrents against data breaches and other violations of the PDP Bill. Further, criminal penalties would disincentivise small and medium sized enterprises from participating in the digital economy. Therefore, it is recommended that the criminal penalties be removed from the PDP Bill.

6. The definition of the term ‘child’ under the PDP Bill should be amended

The PDP Bill defines a ‘child’ to mean a data principal below the age of 18 years¹⁶³. In order to process a child’s data, data fiduciaries must incorporate appropriate mechanisms to verify their age and obtain parental consent¹⁶⁴. It will be challenging for data fiduciaries to implement this requirement over the internet, as users are invisible online, making it difficult to ascertain whether a user qualifies as a child under the PDP Bill or not. For instance, in order to ascertain the age of users, data fiduciaries may require them to share official identification documents. Where such users are children, the processing of identification documents itself may result in a violation of the PDP Bill. Given these difficulties, it is recommended that the definition of “child” should be amended such that the parental consent requirements for children are in keeping with equivalent laws such as the European Union’s General Data Protection Regulation (“**GDPR**”) ¹⁶⁵, where parental consent is only required for children below the age of 16 years.

¹⁵⁸ NITI Aayog, National Strategy for Artificial Intelligence, dated June 2018, available at https://niti.gov.in/writereaddata/files/document_publication/NationalStrategy-for-AI-Discussion-Paper.pdf.

¹⁵⁹ Asia Pacific Economic Cooperation, APEC Cross-Border Privacy Rules system program requirements, available at <http://cbprs.org/business/>.

¹⁶⁰ Privacy shield overview, available at <https://www.privacyshield.gov/Program-Overview>.

¹⁶¹ Ministry of external affairs, Mutual legal assistance requests, dated August 2015, available at <https://www.mea.gov.in/mlatcriminal.htm>.

¹⁶² Chapter XIII, ministry of electronics and information technology, the Personal Data Protection Bill, 2018 available at https://meity.gov.in/writereaddata/files/Personal_Data_Protection_Bill,2018.pdf.

¹⁶³ Section 3(9), ministry of electronics and information technology, the Personal Data Protection Bill, 2018 available at https://meity.gov.in/writereaddata/files/Personal_Data_Protection_Bill,2018.pdf.

¹⁶⁴ Section 23, ministry of electronics and information technology, the Personal Data Protection Bill, 2018 available at https://meity.gov.in/writereaddata/files/Personal_Data_Protection_Bill,2018.pdf.

¹⁶⁵ Article 8, General Data Protection Regulation, available at <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1532348683434&uri=CELEX:02016R0679-20160504>.

7. Revise the classification of data under the PDP Bill

Indirectly identifiable data should be excluded from the ambit of 'personal data'¹⁶⁶ under the PDP Bill. This is because, in order for a data fiduciary to ascertain whether data may indirectly identify a data principal, the data fiduciary will need to employ constantly evolving technological means, which will involve high compliance costs. Moreover, 'indirectly identifiable data' may also be read to include pseudonymised data, which will then qualify as personal data. This is problematic because data fiduciaries invest in pseudonymising data to use it for research and development purposes, which may not be possible if it is subject to the same safeguards as personal data.

8. Remove financial data from the ambit of SPD

The current definition of SPD may include all forms of financial data. Pure play financial identifiers (such as bank numbers or UPI handles) should be excluded from the ambit of SPD, since they cannot be abused to the detriment of the data principal. On the contrary, only data related to second factor authentication may be made SPD. This would be in line with the GDPR which also does not include financial data within the ambit of SPD.

¹⁶⁶ Section 3(29), ministry of electronics and information technology, the Personal Data Protection Bill, 2018 available at https://meity.gov.in/writereaddata/files/Personal_Data_Protection_Bill,2018.pdf.

CYBER SECURITY

A. Context

As of June 2019, India does not have a comprehensive, cross-sectoral and dedicated law on cyber security. However, the IT Act¹⁶⁷ and the rules framed under it do contain some provisions on these issues. These provisions have been discussed below.

In dealing with encryption and encrypted communications, the government has often preferred to forgo strong encryption for easier surveillance, which often compromises cyber security.

Cyber security, electronic surveillance and encryption are closely interlinked, in that encryption is a means to maintain security and privacy of online communication, while law enforcement agencies that seek access to information by decryption or interception of encrypted communication are a means of state surveillance. In dealing with encryption and encrypted communications, the government has often preferred to forgo strong encryption for easier surveillance, which often compromises cyber security. Given this strong interconnection, this sub-section of the report can be read together with the following sub-section (Sub-section IV), which tackles electronic surveillance and encryption.

B. CURRENT STATE OF LAW AND POLICY

Cyber security

The IT Act defines 'cyber security' to mean the protection of a computer resource, communication device or information stored in it from "*unauthorized access, use, disclosure, disruption, modification or destruction*"¹⁶⁸. In order to enhance cyber security measures, it empowers the central government to monitor and collect traffic data¹⁶⁹ transmitted or stored in any computer resource¹⁷⁰.

Protecting 'critical information infrastructure'

The IT Act defines 'critical information infrastructure' ("CII") to mean any computer resource the "*destruction or incapacitation [of which] will have a debilitating impact on national security, economy, public health or safety*"¹⁷¹. The central government is empowered to form a nodal agency to recognise and protect 'critical information infrastructure'¹⁷². This agency is known as the National Critical Information Infrastructure Protection Centre ("NCIIPC")¹⁷³. The NCIIPC's function is limited to identifying and protecting CII¹⁷⁴.

¹⁶⁷ The Information Technology Act, 2000.

¹⁶⁸ Section 2(1) (nb), Information Technology Act, 2000.

¹⁶⁹ Explanation (ii), section 69(B)(4), Information Technology Act, 2000: "*traffic data*" means any data identifying or purporting to identify any person, computer system or computer network or location to or from which the communication is or may be transmitted and includes communications origin, destination, route, time, data, size, duration or type of underlying service and any other information".

¹⁷⁰ Section 2(k), Information Technology Act, 2000: "*computer resource*" means computer, computer system, computer network, data, computer data base or software".

¹⁷¹ Explanation to Section 70(1), Information Technology Act, 2000.

¹⁷² Section 70A, Information Technology Act: "*The Central Government may, by notification published in the Official Gazette, designate any organisation of the Government as the national nodal agency in respect of Critical Information Infrastructure Protection*".

¹⁷³ Para 4.3, National Critical Information Infrastructure Protection Centre, Guidelines for Protection of Critical Information Infrastructure, dated 16 January 2015, available at http://nciipc.gov.in/documents/NCIIPC_Guidelines_V2.pdf.

¹⁷⁴ Para 4.3.1 and 4.3.2, National Critical Information Infrastructure Protection Centre, Guidelines for Protection of Critical Information Infrastructure, dated 16 January 2015, available at http://nciipc.gov.in/documents/NCIIPC_Guidelines_V2.pdf.

CII notified as 'protected system'

Both central and state governments¹⁷⁵ are allowed to notify any computer resource which contains CII as a 'protected system'¹⁷⁶. Once an organisation has been notified to have a 'protected system' it must observe certain security practices to secure the 'protected system' against unauthorised access, system vulnerabilities, cyber threats, etc¹⁷⁷. These organisations must also implement the security measures specified by NCIIPC¹⁷⁸.

Mechanism for responding to cyber security incidences

The government-appointed Indian Computer Emergency Response Team ("CERT-In") is responsible for forecast, alerts and emergency response to cyber security incidents¹⁷⁹. It is allowed to monitor and collect traffic data or information generated, transmitted, received or stored in any computer resource for the purpose of enhancing cyber security¹⁸⁰.

National Cyber Security Policy 2013

The National Cyber Security Policy¹⁸¹ was released by MeitY in 2013. However, as of June 2019, it has not been revised or updated. The policy captured the government's principled intention to create a secure computing environment, build capabilities to prevent cyber-attacks and reduce cyber vulnerabilities¹⁸².

C. RECOMMENDATIONS

1. Formulate implementation strategies for the National Cyber Security Policy 2013

The National Cyber Security Policy 2013 identifies key principles and goals to strengthen the cyber security framework in India. However, it does not clearly articulate implementation strategies or a time frame to operationalise these goals. As a result, several principles envisaged in the policy have not effected regulatory change, despite there being an intent to do so. Therefore, the goals and principles given in the National Cyber Security Policy 2013 must be operationalised to effect policy change.

¹⁷⁵ Section 2(e), Information Technology Act, 2000: "appropriate government" means as respects any matter,- (i) enumerated in List II of the Seventh Schedule to the Constitution; (ii) relating to any State law enacted under List III of the Seventh Schedule to the Constitution, the State Government and in any other case, the Central Government".

¹⁷⁶ Rule 2(1)(k), Information Technology (Information Security Practices and Procedures for Protected System) Rules, 2018: "any computer, computer system or computer network of any organisation as notified under section 70 of the Act, in the official gazette by appropriate Government."

¹⁷⁷ Rule 3(3), the Information Technology (Information Security Practices and Procedures for Protected System) Rules, 2018.

¹⁷⁸ Rule 4(1), the Information Technology (Information Security Practices and Procedures for Protected System) Rules, 2018.

¹⁷⁹ Section 70B (4), Information Technology Act, 2000: "The Indian Computer Emergency Response Team shall serve as the national agency for performing the following functions in the area of cyber security,- (a) collection, analysis and dissemination of information on cyber incidents; (b) forecast and alerts of cyber security incidents; (c) emergency measures for handling cyber security incidents; (d) coordination of cyber incidents response activities...". Rule 2(h), Information Technology (The Indian Computer Emergency Response Team and Manner of Performing Functions and Duties) Rules, 2013 states "Cyber Security Incident" means any real or suspected adverse event that is likely to cause or causes and offence or contravention, harm to critical functions and services across the public and private sectors by impairing the confidentiality, integrity or availability of electronic information, systems, services or networks resulting in unauthorized access, denial of service or disruption, unauthorized use of a computer resource, changes to data or information without authorization; or threatens public safety, undermines public confidence, have a negative effect on the national economy or diminishes the security posture of the nation."

¹⁸⁰ Ministry of communications and information technology notification, dated 26 April 2016, available at <https://meity.gov.in/writereaddata/files/69B%20Notification%20-April%202016.pdf>.

¹⁸¹ National Cyber Security Policy, 2013, dated 2 July 2013, available at https://meity.gov.in/writereaddata/files/downloads/National_cyber_security_policy-2013%281%29.pdf.

¹⁸² Preamble, ministry of electronics and information technology, National Cyber Security Policy, 2013, dated 2 July 2013, available at https://meity.gov.in/writereaddata/files/downloads/National_cyber_security_policy-2013%281%29.pdf.

2. Encourage private sector participation in policy formulation

The regulatory framework governing cyber security in India has largely been formulated by the government, without private sector participation. This approach is out of alignment with the National Cyber Security Policy 2013, which aims to develop an “effective public private partnership and [create] models for collaboration and engagement of various stakeholders including private stakeholders¹⁸³”. Given the dynamic nature of cyber threats which create new vulnerabilities and opportunities for disruption from a variety of sources, the lack of private sector participation in formulating policies thwarts adoption of innovative and nimble solutions to combat cyber threats. Therefore, formulating policies effecting cyber security should have more private sector participation. This would enable the creation of a robust and future-ready regulatory framework, which is able to counter and minimise cyber security threats.

3. Strengthen regulatory accountability

The Information Technology (The Indian Computer Emergency Response Team and Manner of Performing Functions and Duties) Rules, 2013¹⁸⁴ (“CERT-In Rules”) do not hold the CERT-In accountable for its treatment and quality of response to cyber security incidents. This level of discretion granted to the CERT-In creates a lack of regulatory accountability. This can be remedied by amending the CERT-In Rules to mandate the minimum response time and standard response procedure that the CERT-In must follow in its response to cyber security incidences. Further, law enforcement access requests by government agencies should aim to be lawful, fair, specific and limited such that the personal data being requested is not excessive¹⁸⁵. The government can also limit the discretion granted to intelligence agencies for accessing personal data by permitting such access requests only if they are required for a specific purpose under a statutory authority, as is practiced in the UK¹⁸⁶.

4. Arrest the rise in cyber-security breaches

There have been reports of up to 6,50,000 cyber-attacks on the Indian government’s systems from countries like China, Russia and the US¹⁸⁷. This clearly demonstrates that the cyber security protocols are currently lacking on the implementation and policy fronts. It indicates the need for an improved regulatory mechanism to secure the data of the government, Indian citizens and businesses. Therefore, a robust and comprehensive cyber security law is needed to protect the vast data reserves in India’s rapidly growing digital economy.

5. Reconsider data localisation

As mentioned under the sub-section on data governance, the data localisation requirement¹⁸⁸ under the PDP Bill will make the data of Indian citizens more vulnerable to security risks¹⁸⁹. This is because storing data across several jurisdictions increases the level of security and helps in data recovery in case of any disasters¹⁹⁰. The requirement to store at least one copy of ‘personal data’ within servers in India may lead to duplicate sets of data being stored in multiple servers within and outside India. This will increase the number of attack surfaces for the same sets of data thereby exacerbating the possibility of data breach. Therefore, the data localisation framework must consider unintended consequences such as the exacerbation of cyber security threats. Our recommendations on this issue have been captured in the sub-section on data governance.

¹⁸³ Para IV (L)(1) and (2), ministry of electronics and information technology, National Cyber Security Policy, 2013 available at https://meity.gov.in/writereaddata/files/downloads/National_cyber_security_policy-2013%281%29.pdf.

¹⁸⁴ The Information Technology (The Indian Computer Emergency Response Team and Manner of Performing Functions and Duties) Rules, 2013.

¹⁸⁵ Section 34 of the UK Data Protection Act, 2018 states that any law enforcement access request must comply with either all or at least one of the three principles mentioned above, in addition to the following (i) personal data should be accurate and kept up to date; (ii) the personal data should not be kept for longer than is necessary; and (iii) the personal data should be processed in a fair manner, available at http://www.legislation.gov.uk/ukpga/2018/12/pdfs/ukpga_20180012_en.pdf.

¹⁸⁶ Sections 30 (2) and 83(2), United Kingdom Data Protection Act, 2018.

¹⁸⁷ Press Trust of India, India Witnessed Over 6.5 Lakh Cyber Attacks From Russia, US and Others, available at <https://www.bloomberquint.com/business/india-witnesses-over-4-36-lakh-cyberattacks-from-russia-us-others-in-jan-jun-f-secure>.

¹⁸⁸ The effects of data localisation have been analysed in detail in the chapter on ‘Data Governance’.

¹⁸⁹ Dr. K. Bajaj, Data Localisation and Data Access Policy Challenges for Lawmakers, available at <https://tech.economicstimes.indiatimes.com/news/corporate/data-localisation-data-access-policy-challenges-for-lawmakers/64371561>.

¹⁹⁰ Dr. K. Bajaj, Data Localisation and Data Access Policy Challenges for Lawmakers, available at <https://tech.economicstimes.indiatimes.com/news/corporate/data-localisation-data-access-policy-challenges-for-lawmakers/64371561>

6. Promote more resilient authentication processes

The government may consider promoting risk based authentication (“RBA”) or multi-factor authentication (“MFA”) over two-factor authentication (“2FA”). Currently, most device and resource-security measures follow a 2FA process where a possession factor (such as possession of a mobile device to receive a one-time-password) is added to a knowledge factor (such as knowing the password to access a mail account). Unwittingly, the possession factor used by most players is a one-time-password¹⁹¹ which may create complications in remote areas where signal connectivity is weak. Additionally, 2FA is not immune to breach¹⁹². These concerns can be addressed by resorting to MFA or RBA. MFA may include factors like biometrics, smart cards, security tokens over and above the possession and knowledge factors¹⁹³. RBA involves an assessment of the login device, IP reputation, geolocation and geovelocity of each login (some or all may be assessed) and churns out risk scores for every login¹⁹⁴. Additional factors of authentication are solicited if the risk score is deemed to be high. RBA is thus more flexible, contextualised and robust compared to 2FA or MFA. These measures will contribute to enhancing transactional security (security of communications between multiple entities to complete an online transaction, such as an e-commerce purchase) as well.

¹⁹¹ Kaspersky Daily, SMS-based two-factor authentication is not safe – consider these alternative 2FA methods instead, available at <https://www.kaspersky.co.in/blog/2fa-practical-guide/14467/>.

¹⁹² Kaspersky Daily, SMS-based two-factor authentication is not safe – consider these alternative 2FA methods instead, available at <https://www.kaspersky.co.in/blog/2fa-practical-guide/14467/>.

¹⁹³ J. Spacey, 8 Types of Multi-Factor Authentication, dated 24 November 2016, available at <https://simplicable.com/new/multi-factor-authentication>.

¹⁹⁴ K. Garska, What Is Risk-Based Authentication? dated 28 August 2017, available at <https://blog.identityautomation.com/what-is-risk-based-authentication-types-of-authentication-methods>.

ENCRYPTION AND SURVEILLANCE

A. Context

India does not have a comprehensive law on encryption or surveillance. Various legislations and sectoral guidelines prescribe standards for the encryption, and conditions for the interception of communications and the decryption of data. Encryption, decryption and surveillance are broadly interconnected subjects. Therefore, they are governed by overlapping instruments and judgments.

Under current law, encryption is “the process of transforming plaintext data into an unintelligible form (cipher text) such that the original data either cannot be recovered (one-way encryption) or cannot be recovered without using an inverse decryption process (two-way encryption)”¹⁹⁵. The decryption process requires a key¹⁹⁶; the longer the key, the more security it offers. Law enforcement agencies argue for easier decryption¹⁹⁷ or access to the decryption key altogether. On the contrary, users want greater security and privacy of their communications and prefer stronger encryption.

Law enforcement agencies argue for easier decryption or access to the decryption key altogether. On the contrary, users want greater security and privacy of their communications and prefer stronger encryption.

The Information Technology Act, 2000 (“**IT Act**”)¹⁹⁸, the various rules framed under it¹⁹⁹, the Indian Telegraph Act, 1885 (“**Telegraph Act**”)²⁰⁰, and the Indian Telegraph Rules, 1951 (“**Telegraph Rules**”)²⁰¹ govern the encryption and the interception of information. The draft Information Technology [Intermediary guidelines (Amendment) Rules] 2018 (“**Draft Intermediary Guidelines**”)²⁰² make some proposals on interception and traceability. The draft Personal Data Protection Bill, 2018 (“**PDP Bill**”)²⁰³ contains stipulations toward the encryption of sensitive personal data and information. The Unified Licence Agreement (“**ULA**”)²⁰⁴ released by DoT also contains several clauses which speak to encryption and surveillance. The Telecom Regulatory Authority of India (“**TRAI**”) released recommendations on privacy (“**TRAI Recommendations**”)²⁰⁵ in 2018 which also briefly discuss cyber security, encryption and surveillance in India.

The Supreme Court, in the People’s Union for Civil Liberties v. Union of India (“**PUCL Case**”)²⁰⁶, laid down certain checks and balances on the government’s use of its powers of decryption and interception. In K.S. Puttaswamy v. Union of India (2017) (“**Puttaswamy Case**”)²⁰⁷, the Supreme Court declared privacy to be a fundamental right. It stated that this fundamental right could be restricted only if the ‘Three Part Test’ was satisfied²⁰⁸.

¹⁹⁵ Ministry of communications and information technology (the ministry of communications and information technology was bifurcated into the ministry of electronics and information technology and the ministry of communication in July 2016), Certifying Authority Rules, dated 17 October 2000.

¹⁹⁶ D. Fraser, What are encryption keys and how do they work? available at <https://medium.com/codeclan/what-are-encryption-keys-and-how-do-they-work-cc48c3053bd6>.

¹⁹⁷ The National Academy of Sciences, Engineering and Medicine, Cryptography’s Role in Securing the Information Society, available at <https://www.nap.edu/read/5131/chapter/7>.

¹⁹⁸ The Information Technology Act, 2000.

¹⁹⁹ These include the Information Technology (Procedure and safeguards for interception, monitoring and decryption of information) Rules, 2009 and the Information Technology (Reasonable security practices and procedures and sensitive personal data or information) Rules, 2011.

²⁰⁰ The Indian Telegraph Act, 1885.

²⁰¹ The Indian Telegraph Rules, 1951.

²⁰² Ministry of electronics and information technology, Draft Information Technology [Intermediaries Guidelines (Amendment) Rules] 2018, available at https://meity.gov.in/writereaddata/files/Draft_Intermediary_Amendment_24122018.pdf.

²⁰³ Ministry of electronics and information technology, the Personal Data Protection Bill 2018, available at https://meity.gov.in/writereaddata/files/Personal_Data_Protection_Bill%2C2018_0.pdf.

²⁰⁴ Department of telecommunications, Licence Agreement for Unified Licence, available at http://dot.gov.in/sites/default/files/Unified%20Licence_0.pdf.

²⁰⁵ Telecom Regulatory Authority of India, Recommendations on Privacy, Security and Ownership of the Data in the Telecom Sector, dated 16 July 2018, available at https://main.trai.gov.in/sites/default/files/RecommendationDataPrivacy16072018_0.pdf.

²⁰⁶ Para 30, People’s Union for Civil Liberties v. Union of India, Writ Petition (Criminal) No. 612 of 1992.

²⁰⁷ K.S. Puttaswamy v. Union of India, (2017) 10 SCC 1.

²⁰⁸ Para 180, K.S. Puttaswamy v. Union of India, (2017) 10 SCC 1.

In *K.S. Puttaswamy v. Union of India (2018) ("Aadhaar Case")*²⁰⁹ the Supreme Court ruled that the Aadhaar system was constitutional because it satisfied the Three-Part Test and stated that the Aadhaar system did not tend to create a surveillance state in India²¹⁰.

B. CURRENT STATE OF LAW AND POLICY

IT Act

The central government is empowered to prescribe modes and methods of encryption under the IT Act²¹¹. In 2015, the government published a draft encryption policy which was soon withdrawn due to sharp public criticism²¹². The ministry of electronics and information technology ("**MeitY**") was reportedly compiling a second version of the same in mid-2016²¹³, but this has not been released yet.

Information Technology (Procedure and safeguards for interception, monitoring and decryption of information) Rules, 2009

The central government has the power²¹⁴ to intercept, monitor and decrypt any communication generated, transmitted, received or stored in a computer resource²¹⁵ through a written order ("**Surveillance Order**") which may be given in the "*interest of the sovereignty or integrity of India, defence of India, security of the State, friendly relations with foreign States or public order or for preventing incitement to the commission of any*

cognizable offence relating to above or for investigation of any offence"²¹⁶.

Accordingly, the Ministry of Home Affairs issued an order authorising ten "*security and intelligence*" agencies to issue Surveillance Orders ("**MHA Order**")²¹⁷. The central government also has the power²¹⁸ to authorise any agency to collect and monitor any information which is generated or stored in any computer resource for 'enhancing cyber security' and/or for preventing the spread of a 'computer contaminant'²¹⁹. While on one hand this provision seeks to enhance cyber security, on the other hand it may also compromise the privacy of common Indian citizens.

The central government also has the power to authorise any agency to collect and monitor any information which is generated or stored in any computer resource for 'enhancing cyber security' and/or for preventing the spread of a 'computer contaminant'. While on one hand this provision seeks to enhance cyber security, on the other hand it may also compromise the privacy of common Indian citizens.

²⁰⁹ *K.S. Puttaswamy v. Union of India*, Writ Petition (Civil) No. 494 of 2012.

²¹⁰ Para 447, *K.S. Puttaswamy v. Union of India*, Writ Petition (Civil) No. 494 of 2012.

²¹¹ Section 84A, Information Technology Act, 2000.

²¹² SFLC, FAQ: Legal Position of Encryption in India, available at <https://sflc.in/faq-legal-position-encryption-india>.

²¹³ SFLC, FAQ: Legal Position of Encryption in India, available at <https://sflc.in/faq-legal-position-encryption-india>.

²¹⁴ Section 69(1), Information Technology Act 2000 read with Rule 3 of the Information Technology (Procedure and safeguards for interception, monitoring and decryption of information) Rules, 2009.

²¹⁵ Section 2(k) of the Information Technology Act defines 'computer resource' as any computer, computer system, computer network, data, computer databases or software. The terms 'computer', 'computer network' and 'computer system' are defined in sections 2(i), 2(j) and 2(l) of the Information Technology Act 2000.

²¹⁶ Section 69(1), Information Technology Act, 2000.

²¹⁷ Ministry of home affairs, Order No. 14/07/11-T, dated 20 December 2018, available at https://pbs.twimg.com/media/Du6PKB_W4AE0k2Z.jpg:large.

²¹⁸ Section 69B, Information Technology Act, 2000.

²¹⁹ Explanation (i), Section 43, Information Technology Act, 2000: "*computer contaminant*" means any set of computer instructions that are designed-

(a) to modify, destroy, record, transmit data or programme residing within a computer, computer system or computer network; or

(b) by any means to usurp the normal operation of the computer, computer system, or computer network".

Information Technology (Reasonable security practices and procedures and sensitive personal data or information) Rules, 2011

The Information Technology (Reasonable security practices and procedures and sensitive personal data or information) Rules, 2011 (“**SPDI Rules**”) require certain entities to put in place an information security policy²²⁰. Since these are aimed at protecting consumer data, companies are inclined to adopt high standards of encryption, which will in turn keep their data safe. The SPDI Rules state that these information security policies may either comply with industry best practice standards²²¹ or an industry association may create its own code, which it must then get ratified by the central government²²².

TRAI Recommendations

TRAI recommended the harmonisation of the encryption standards across different sectors²²³ and the formulation of a national policy for the encryption of personal data²²⁴. Further, it recommended that personal data of telecom consumers should be encrypted during motion and storage, and decryption should be permitted only after obtaining customer consent²²⁵.

Draft Intermediary Guidelines

The Draft Intermediary Guidelines stipulate²²⁶ that an intermediary²²⁷ upon a request from a government agency should provide the requested information to the agency within 72 hours of receiving such order (“**Access Order**”)²²⁸. Further, the Draft Intermediary Guidelines propose that intermediaries should enable tracing of a message back to its originator, if required by certain authorised government agencies. These are both forms of monitoring and surveillance; if implemented in their current form the Draft Intermediary Guidelines would increase the surveillance capabilities of government manifold.

PDP Bill

The PDP Bill²²⁹ requires any legal or juristic person including the government (collectively “person”) who collects²³⁰ and/or processes²³¹ personal data of other people to implement safeguards, including encryption, to protect such data.

²²⁰ Rule 8, Information Technology (Reasonable security practices and procedures and sensitive personal data or information) Rules, 2011.

²²¹ Rule 8(2), Information Technology (Reasonable security practices and procedures and sensitive personal data or information) Rules, 2011.

²²² Rule 8(3), Information Technology (Reasonable security practices and procedures and sensitive personal data or information) Rules, 2011.

²²³ Clause 3.4(a), Telecom Regulatory Authority of India, Recommendations on Privacy, Security and Ownership of the Data in the Telecom Sector, dated 16 July 2018, available at https://main.traigov.in/sites/default/files/RecommendationDataPrivacy16072018_0.pdf.

²²⁴ Clause 3.4(b), Telecom Regulatory Authority of India, Recommendations on Privacy, Security and Ownership of the Data in the Telecom Sector, dated 16 July 2018, available at https://main.traigov.in/sites/default/files/RecommendationDataPrivacy16072018_0.pdf.

²²⁵ Clause 3.4(c), Telecom Regulatory Authority of India, Recommendations on Privacy, Security and Ownership of the Data in the Telecom Sector, dated 16 July 2018, available at https://main.traigov.in/sites/default/files/RecommendationDataPrivacy16072018_0.pdf.

²²⁶ Rule 3(5), Ministry of electronics and information technology, Draft Intermediary Guidelines, available at https://meity.gov.in/writereaddata/files/Draft_Intermediary_Amendment_24122018.pdf.

²²⁷ Section 2(w), Information Technology Act, 2000: “intermediary” with respect to any particular electronic records, means any person who on behalf of another person receives, stores or transmits that record or provides any service with respect to that record and includes telecom service providers, network service providers, internet service providers, web-hosting service providers, search engines, online payment sites, online-auction sites, online-market places and cyber cafes”.

²²⁸ Rule 3(5), Ministry of electronics and information technology, Draft Intermediary Guidelines, https://meity.gov.in/writereaddata/files/Draft_Intermediary_Amendment_24122018.pdf.

²²⁹ Section 31, the Personal Data Protection Bill 2018, available at https://meity.gov.in/writereaddata/files/Personal_Data_Protection_Bill%2C2018_0.pdf.

²³⁰ Section 3(13), the Personal Data Protection Bill 2018: “Data fiduciary” means any person, including the State, a company, any juristic entity or any individual who alone or in conjunction with others determines the purpose and means of processing of personal data.” available at https://meity.gov.in/writereaddata/files/Personal_Data_Protection_Bill%2C2018_0.pdf.

²³¹ Section 3(15), the Personal Data Protection Bill 2018: “Data processor” means any person, including the State, a company, any juristic entity or any individual who processes personal data on behalf of a data fiduciary, but does not include an employee of the data fiduciary.”, available at https://meity.gov.in/writereaddata/files/Personal_Data_Protection_Bill%2C2018_0.pdf.

The PDP Bill also proposes to establish a Data Protection Authority (“DPA”)²³² which has the power to inquire into the affairs of any person which collects and/or processes the personal data of people²³³. If any such person fails to assist the DPA, it may “access any computer, computer resource, or any other device containing or suspected to be containing data”²³⁴. Under the PDP Bill, sensitive personal data also includes passwords²³⁵. If passwords include decryption keys, then the PDP Bill restricts the storage of such decryption keys outside India²³⁶.

Telegraph Act and Telegraph Rules:

Central and state government officials can temporarily take control of any licensed telegraph (as defined under the Telegraph Act²³⁷) without any written order²³⁸. They may stop the transmission of certain messages, or demand their disclosure²³⁹. Certain government officials may pass orders for the interception of information (“Interception Orders”)²⁴⁰. The Telegraph Rules establish a review committee to review Surveillance Orders²⁴¹ and Interception Orders²⁴². This means that government officials review orders passed by other government officials without any legislative or judicial oversight²⁴³. In the PUCL Case, the Supreme Court laid out that Interception Orders should be issued only by the state or central home secretaries²⁴⁴, that the agency making such an order should consider whether there are other means to access such information other than interception²⁴⁵, that the Interception Order should be specific and detailed²⁴⁶, and lastly that the Interception Order should be valid only for two months²⁴⁷.

ULA

The ULA prohibits the use of bulk encryption²⁴⁸ (bulk encryption is a process used for encrypting large amounts of data) and stipulates that the “use of encryption by the subscriber²⁴⁹ shall be governed by the Government Policy/rules made under the Information Technology Act, 2000”²⁵⁰. Therefore, the ULA does not prescribe any

²³² Section 49 of the Personal Data Protection Bill sets up the Data Protection Act. Section 60 of the Personal Data Protection Bill lays down the various powers and functions of the DPA, which include primarily, the protection of the interests of data principals, ensuring compliance with the provisions of the PDP Bill and promoting awareness of data protection, available at https://meity.gov.in/writereaddata/files/Personal_Data_Protection_Bill%2C2018_0.pdf.

²³³ Section 64(1), Ministry of electronics and information technology, the Personal Data Protection Bill 2018, available at https://meity.gov.in/writereaddata/files/Personal_Data_Protection_Bill%2C2018_0.pdf.

²³⁴ Sections 66(1) (iii), and 66(1) (b), Ministry of electronics and information technology, the Personal Data Protection Bill 2018, available at https://meity.gov.in/writereaddata/files/Personal_Data_Protection_Bill%2C2018_0.pdf.

²³⁵ Section 3(35), Ministry of electronics and information technology, the Personal Data Protection Bill 2018, available at https://meity.gov.in/writereaddata/files/Personal_Data_Protection_Bill%2C2018_0.pdf.

²³⁶ Section 40, Ministry of electronics and information technology, the Personal Data Protection Bill 2018, available at https://meity.gov.in/writereaddata/files/Personal_Data_Protection_Bill%2C2018_0.pdf.

²³⁷ Section 3, (1AA), Telegraph Act, 1885: “‘telegraph’ means any appliance, instrument, material or apparatus used or capable of use for transmission or reception of signs, signals, writing, images and sounds or intelligence of any nature by wire, visual or other electro-magnetic emissions, radio waves or Hertzian waves, galvanic, electric or magnetic means. Explanation. – ‘Radio waves’ or ‘Hertzian waves’ means electromagnetic waves of frequencies lower than 3,000 giga-cycles per second propagated in space without artificial guide.”

²³⁸ Section 5(1), Telegraph Act.

²³⁹ Section 5(2), Telegraph Act.

²⁴⁰ Rule 419A, Telegraph Rules.

²⁴¹ Section 69(1), Information Technology Act read with Rule 3 of the Information Technology (Procedure and safeguards for interception, monitoring and decryption of information) Rules, 2009.

²⁴² Rule 419A, Telegraph Rules.

²⁴³ N. Chaudhari and T. Joshi, Centre’s order on computer surveillance is backed by law – but the law lacks adequate safeguards, available at <https://scroll.in/article/906764/centres-order-on-computer-surveillance-is-backed-by-law-but-the-law-lacks-adequate-safeguards>.

²⁴⁴ Para 35(1), People’s Union for Civil Liberties v. Union of India, Writ Petition (Criminal) No. 612 of 1992.

²⁴⁵ Para 35(3), People’s Union for Civil Liberties v. Union of India, Writ Petition (Criminal) No. 612 of 1992.

²⁴⁶ Para 35(4), People’s Union for Civil Liberties v. Union of India, Writ Petition (Criminal) No. 612 of 1992.

²⁴⁷ Para 35(5), People’s Union for Civil Liberties v. Union of India, Writ Petition (Criminal) No. 612 of 1992.

²⁴⁸ Clause 37.1, Department of telecommunications, Licence Agreement for Unified Licence, available at http://dot.gov.in/sites/default/files/Unified%20Licence_0.pdf.

²⁴⁹ Definition of Terms and expressions, Department of telecommunications, Licence Agreement for Unified Licence: “90. SUBSCRIBER means any person or legal entity, which subscribes to / avails of the service from the Licensee. In this License, the words ‘Customer’ and ‘Subscriber’ have been used interchangeably.”

²⁵⁰ Clause 37.5, Department of telecommunications, Licence Agreement for Unified Licence, available at http://dot.gov.in/sites/default/files/Unified%20Licence_0.pdf.

encryption standards itself but leaves the same to be formulated under the IT Act²⁵¹. Similarly, the ULA foists other obligations on licensees to create and maintain the requisite monitoring, interception and inspection facilities for DoT²⁵² which enhances the government's surveillance capabilities.

Various encryption guidelines

Various sectoral regulators have formulated sector-specific encryption guidelines. For example, the Securities Exchange Board of India ("SEBI")²⁵³, the Reserve Bank of India ("RBI")²⁵⁴ also lay out guidelines for the sectors they oversee.

Puttaswamy Case

The Supreme Court held that the right to privacy was a fundamental right²⁵⁵. It laid down the Three-Part Test to determine whether any restriction on the right to privacy was legal. These three conditions are that

(i) the restriction must be based on an existing law, i.e. should be lawful in nature ('legality'); (ii) the restriction should achieve a legitimate state aim ('legitimate purpose'); (iii) the extent of restriction must be proportionate to achieve the legitimate aim ('proportionality')²⁵⁶. The Supreme Court directed the government to introduce a strong data protection regime in India as soon as possible. The draft PDP Bill submitted to MeitY is a step in this direction²⁵⁷.

These three conditions are that (i) the restriction must be based on an existing law, i.e. should be lawful in nature ('legality'); (ii) the restriction should achieve a legitimate state aim ('legitimate purpose'); (iii) the extent of restriction must be proportionate to achieve the legitimate aim ('proportionality').

Aadhaar case

The Supreme Court ruled that the Aadhaar system was constitutional²⁵⁸ since it satisfied the Three-Part Test and stated that the Aadhaar system did not tend to create a surveillance state in India²⁵⁹.

²⁵¹ Clause 37.5, Department of telecommunications, Licence Agreement for Unified Licence, available at http://dot.gov.in/sites/default/files/Unified%20Licence_0.pdf.

²⁵² Operating Conditions (Chapter V) and Technical Conditions (Chapter IV), Department of telecommunications, Licence Agreement for Unified Licence, available at http://dot.gov.in/sites/default/files/Unified%20Licence_0.pdf.

²⁵³ Securities and Exchange Board of India, Cyber Security and Cyber Resilience framework for Mutual Funds / Asset Management Companies, dated 6 July 2015, available at <https://www.sebi.gov.in/legal/circulars/jan-2019/cyber-security-and-cyber-resilience-framework-for-mutual-funds-asset-management-companies-amcs-41589.html>; Cyber Security and Cyber Resilience framework of Stock Exchanges, Clearing Corporations and Depositories, dated 7 December 2018, available at https://www.sebi.gov.in/legal/circulars/dec-2018/cyber-security-and-cyber-resilience-framework-of-stock-exchanges-clearing-corporations-and-depositories_41244.html; Cyber Security & Cyber Resilience framework for Stock Brokers / Depository Participants, dated 3 December 2018, available at https://www.sebi.gov.in/legal/circulars/dec-2018/cyber-security-and-cyber-resilience-framework-for-stock-brokers-depository-participants_41215.html; Cyber Security Operations Center for the SEBI registered intermediaries, dated 14 December 2018, available at https://www.sebi.gov.in/legal/circulars/dec-2018/cyber-security-operations-center-for-the-sebi-registered-intermediaries_41291.html; Cyber Security and Cyber Resilience framework for Registrars to an Issue /Share Transfer Agents, dated 8 September 2017, available at https://www.sebi.gov.in/legal/circulars/sep-2017/cyber-security-and-cyber-resilience-framework-for-registrars-to-an-issue-share-transfer-agents_35890.html; Cyber Security and Cyber Resilience framework of National Commodity Derivatives Exchanges, dated 29 March 2016, available at https://www.sebi.gov.in/legal/circulars/mar-2016/cyber-security-and-cyber-resilience-framework-of-national-commodity-derivatives-exchanges_32150.html; Cyber Security and Cyber Resilience framework of Stock Exchanges, Clearing Corporation and Depositories, dated 6 July 2015, available at https://www.sebi.gov.in/legal/circulars/jul-2015/cyber-security-and-cyber-resilience-framework-of-stock-exchanges-clearing-corporation-and-depositories_30221.html

²⁵⁴ Reserve Bank of India, Guidelines on Information security, Electronic Banking, Technology risk management and cyber frauds, dated 29 April 2011, available at <https://rbidocs.rbi.org.in/rdocs/content/PDFs/GBS300411F.pdf>. These guidelines mandate the use of at least 128-bit encryption and other cyber security related measures which banks may take.

²⁵⁵ Para 81, K.S. Puttaswamy v. Union of India, (2017) 10 SCC 1.

²⁵⁶ Para 180, K.S. Puttaswamy v. Union of India, (2017) 10 SCC 1.

²⁵⁷ Para 190, K.S. Puttaswamy v. Union of India, (2017) 10 SCC 1.

²⁵⁸ Para 1173, K.S. Puttaswamy v. Union of India, Writ Petition (Civil) No. 494 of 2012.

²⁵⁹ Para 447, K.S. Puttaswamy v. Union of India, Writ Petition (Civil) No. 494 of 2012.

C. RECOMMENDATIONS

1. Align the various laws governing cyber security, encryption and surveillance

SEBI²⁶⁰ and RBI²⁶¹ prescribe different encryption standards while the ULA does not prescribe any²⁶². Moreover, the IT Act, Telegraph Act, and the rules framed under them, as well as the PDP Bill, Draft Intermediary Guidelines, and ULA all have overlapping and conflicting provisions concerning encryption, surveillance and interception. The government should create an overarching regime for cyber security, encryption and surveillance which balances individual privacy and business interests in keeping information secure with the law enforcement objectives.

2. Adopt leading industry standards for encryption

Many instruments today stipulate very low standards of encryption, such as 128-bit encryption, which is easy to decrypt²⁶³. Very low standards of encryption may leave businesses and government datasets vulnerable to backdoor or zero-day attacks by the enemies of the state. Therefore, the government should encourage the adoption of leading industry standards for encryption.

3. Prescribe narrow grounds for decryption

The Telegraph Act, the PDP Bill and the IT Act have broad grounds for issuing interception and Surveillance Orders. Terms such as 'to enhance cyber security'²⁶⁴, 'interest of public safety'²⁶⁵, and 'detrimental to interests of data principals'²⁶⁶ under the IT Act, Telegraph Act and PDP Bill respectively, are broad. It is unclear whether decryption keys fall under the definition of passwords under the PDP Bill or not. These grounds should be brought in the line with the Puttaswamy Case.

4. Introduce legislative or judicial oversight over government surveillance:

Under current Indian law, the executive pillar of the country sits in review over orders passed by the executive²⁶⁷. This may compromise neutral and unbiased decision making and also goes against the basic principle of law that a person must not judge his own case²⁶⁸. The government should introduce some legislative or judicial oversight into this process to strengthen it. This is the case in several countries such as the US, UK, South Africa and Germany²⁶⁹.

²⁶⁰ Securities and Exchange Board of India, Master Circular No. CIR/MRD/DP/9/2015, Chapter 2 - Trading Software and Technology, dated 26 May 2015 available at https://www.sebi.gov.in/sebi_data/commndocs/chapter2trading_p.pdf. The SEBI master circular requires SSL encryption, preferably with 128-bit encryption, and end to end encryption for internet based trading.

²⁶¹ Reserve Bank of India, Guidelines on Information security, Electronic Banking, Technology risk management and cyber frauds, dated 29 April 2011, available at <https://rbidocs.rbi.org.in/rdocs/content/PDFs/GBS300411F.pdf>. These guidelines mandate the use of at least 128-bit encryption and other cyber security related measures which banks may take.

²⁶² SFLC, FAQ: Legal Position of Encryption in India, available at <https://sflc.in/faq-legal-position-encryption-india>.

²⁶³ M. Buchanan, How the N.S.A. Cracked the Web, available at <https://www.newyorker.com/tech/annals-of-technology/how-the-n-s-a-cracked-the-web>.

²⁶⁴ Section 69B, Information Technology Act.

²⁶⁵ Sections 5(1) and 5(2), Telegraph Act.

²⁶⁶ Section 64, Ministry of electronics and information technology, the Personal Data Protection Bill 2018, available at https://meity.gov.in/writereaddata/files/Personal_Data_Protection_Bill%2C2018_0.pdf.

²⁶⁷ N. Chaudhari and T. Joshi, Centre's order on computer surveillance is backed by law – but the law lacks adequate safeguards, available at <https://scroll.in/article/906764/centres-order-on-computer-surveillance-is-backed-by-law-but-the-law-lacks-adequate-safeguards>.

²⁶⁸ N. Chaudhari and T. Joshi, Centre's order on computer surveillance is backed by law – but the law lacks adequate safeguards, available at <https://scroll.in/article/906764/centres-order-on-computer-surveillance-is-backed-by-law-but-the-law-lacks-adequate-safeguards>.

²⁶⁹ N. Chaudhari and T. Joshi, Centre's order on computer surveillance is backed by law – but the law lacks adequate safeguards, available at <https://scroll.in/article/906764/centres-order-on-computer-surveillance-is-backed-by-law-but-the-law-lacks-adequate-safeguards>.

5. Disclose requisitions to impacted persons:

The government should mandate that requisitions of information about a particular person should be communicated to him/her and should even specify the timelines for such disclosure. This would enhance transparency in the exercise of the government's powers.

6. Retain end to end encryption

The government's proposal to enable traceability under the Draft Intermediary Guidelines will detrimentally impact the right to free speech and privacy²⁷⁰. Both of these are cherished constitutional values and must be upheld. Therefore, end to end encryption should be retained. Moreover, end to end encryption is broken through the use of encryption backdoors. Knowledge of such backdoors to encrypted platforms will prompt zero-day attackers and hackers and to find ways to exploit this backdoor to gain access to sensitive data²⁷¹.

7. Allow bulk encryption:

Bulk encryption provides a high degree of security²⁷². A ban on bulk encryption as prescribed by the ULA decreases cyber security in India and increases business costs. The ban of bulk encryption should be lifted to facilitate better information security, and reduce compliance costs.

²⁷⁰ A. Deep, Government Makes Notices to WhatsApp Responses Public, available at <https://www.medianama.com/2018/08/223-government-letters-whatsapp-meity/>.

²⁷¹ V. Pai, FBI and Apple Hearing Scheduled this Month: Developments and Timeline, available at <https://www.medianama.com/2016/03/223-apple-fbi-case-timeline/>.

²⁷² W. Busse, What does Bulk Encryption Mean? available at <https://www.brighthub.com/computing/smb-security/articles/75850.aspx>.

REGULATION OF CLOUD SERVICE PROVIDERS

A. Context

Cloud computing services are transforming the manner in which Information Technology (“IT”) services are consumed and managed, resulting in improved cost efficiencies, accelerated innovation, faster time-to-market, and the ability to scale applications on demand²⁷³. The government has also recognised these advantages and has sought to integrate cloud computing technology for the delivery of e-services in India²⁷⁴. It is also proactively looking to establish India as a global hub for cloud computing and to facilitate the growth of cloud service providers (“CSP”) ²⁷⁵. However, certain proposals of the central government, especially pertaining to sector specific frameworks for CSPs²⁷⁶, will detrimentally impact cloud computing in India.

B. Current state of law and policy

TCSPs provide information technology related services and therefore have largely been regulated by the ministry of electronics and information technology (“MeitY”). However, CSPs use telecom infrastructure to provide their services which is governed by the Indian Telegraph Act, 1885 (“Telegraph Act”) ²⁷⁷ and the Indian Telegraph Rules, 1951 (“Telegraph Rules”) ²⁷⁸. Since the Telegraph Act and the Telegraph Rules are administered by the ministry of communications and the department of telecommunications (“DoT”), there has been a regulatory overlap between the ministry of communications and MeitY in matters pertaining to CSPs. The Telecom Regulatory Authority of India (“TRAI”) released recommendations on CSPs²⁷⁹ which exemplifies this overlap.

The IT Act governs the following issues for CSPs:

(i) data protection standards and practices²⁸⁰; (ii) co-operation with government authorities²⁸¹; (iii) due diligence standards²⁸²; (iv) encryption standards²⁸³; (v) reporting obligations²⁸⁴; (vi) safeguards to protect against cyber-terrorism²⁸⁵; (vii) electronic service delivery of public services²⁸⁶; (viii) management of critical information infrastructure²⁸⁷.

The IT Act governs the following issues for CSPs: (i) data protection standards and practices; (ii) co-operation with government authorities; (iii) due diligence standards; (iv) encryption standards; (v) reporting obligations; (vi) safeguards to protect against cyber-terrorism; (vii) electronic service delivery of public services; (viii) management of critical information infrastructure.

²⁷³ Ministry of electronics and information technology, government of India's GI Cloud (Meghraj) Strategic Direction Paper, dated April 2013, available at https://meity.gov.in/writereaddata/files/GI-Cloud%20Strategic%20Direction%20Report%281%29_0.pdf.

²⁷⁴ Ministry of electronics and information technology, Meghraj, Cloud initiative by the Government of India, available at <https://cloud.gov.in/about.php>.

²⁷⁵ Department of telecommunications, National Digital Communication Policy, 2018, available at http://dot.gov.in/sites/default/files/Final%20NDDCP-2018_0.pdf.

²⁷⁶ Para 3.12, Telecom Regulatory Authority of India, Recommendations on Cloud Services, dated 16 August 2017, available at https://main.trai.gov.in/sites/default/files/Recommendations_cloud_computing_16082017.pdf.

²⁷⁷ The Indian Telegraph Act, 1885.

²⁷⁸ The Indian Telegraph Rules, 1951.

²⁷⁹ Telecom Regulatory Authority of India, Recommendations on Cloud Services, dated 16 August 2017, available at https://main.trai.gov.in/sites/default/files/Recommendations_cloud_computing_16082017.pdf.

²⁸⁰ Section 43A, Information Technology Act, 2000, and the Information Technology (Reasonable Security Practices and Procedures and Sensitive Personal Data or Information) Rules, 2011.

²⁸¹ Sections 69, 69A, and 69B, Information Technology Act, 2000.

²⁸² Section 79, Information Technology Act, 2000, and the Information Technology (Intermediaries Guidelines) Rules, 2011.

²⁸³ Section 84A, Information Technology Act, 2000 and the Information Technology (Procedure and Safeguards for Interception, Monitoring and Decryption of Information) Rules, 2009.

²⁸⁴ Rules 12 and 15, Information Technology (Indian Computer Emergency Response Team and Manner of Performing Functions and Duties) Rules, 2013.

²⁸⁵ Engaging in cyber-terrorism is punishable with imprisonment under Section 66F of the Information Technology Act, 2000.

²⁸⁶ The Information Technology (Electronic Service Delivery) Rules, 2011.

²⁸⁷ The Information Technology (National Critical Information Infrastructure Protection Centre and Manner of Performing Functions and Duties) Rules, 2013.

Each of these issues is regulated by a comprehensive set of rules notified under the IT Act²⁸⁸. CSPs are service providers under the Consumer Protection Act, 1986 (“COPRA”)²⁸⁹ and are required to ensure that the quality, nature and manner of performance of their services abides by the standards set out under the IT Act and the rules framed thereunder and other commercial terms²⁹⁰. Failure to abide by these requirements may invite action under the COPRA. The Reserve Bank of India’s (“RBI”) notification on cyber-security frameworks for banks²⁹¹ also touches upon the use of cloud services by banks. The Insurance and Regulatory Development Authority of India’s (“IRDAI”) guidelines on information and cyber security of insurers²⁹² provide guidance on cloud access control and cloud data security to ensure that information processed, transmitted and stored by CSPs is secure.

The MeghRaj framework²⁹³ prescribes standards for security, interoperability, and data portability, amongst others, which CSPs must comply with to become government empanelled CSPs²⁹⁴. If implemented in its current form, the Draft E-Commerce Policy²⁹⁵, the PDP Bill²⁹⁶ and the Draft Information Technology [Intermediaries Guidelines (Amendment) Rules] 2018²⁹⁷ will also affect the data protection, privacy and due diligence standards applicable to CSPs. The Gopalakrishnan Committee’s²⁹⁸ draft report²⁹⁹ reportedly stated that data generated in India should be stored locally for ease of access during investigations³⁰⁰. Gopalakrishnan stated that a “forward looking” data protection regime was needed as India’s information technology laws framework was “not sufficient” for cloud computing³⁰¹.

²⁸⁸ The Information Technology (Reasonable security practices and procedures and sensitive personal data or information) Rules, 2011; The Information Technology (Intermediaries guidelines) Rules, 2011; The Information Technology (Indian Computer Emergency Response Team and Manner of Performing Functions and Duties) Rules, 2013; Information Technology (Electronic Service Delivery) Rules, 2011; The Information Technology (Information Security Practices and Procedures for Protected System) Rules, 2018; The Information Technology (Procedure and Safeguards for Interception, Monitoring and Decryption of Information) Rules, 2009; The Information Technology (Procedure and Safeguards for Monitoring and Collecting Traffic Data or Information) Rules, 2009; The Information Technology (Procedure and Safeguards for Blocking for Access of Information by Public) Rules, 2009; and The Information Technology (Preservation and Retention of Information by Intermediaries Providing Digital Locker Facilities) Rules, 2016.

²⁸⁹ Section 2(o), Consumer Protection Act, 1986: “‘service’ means service of any description which is made available to potential users and includes, but not limited to, the provision of facilities in connection with banking, financing insurance, transport, processing, supply of electrical or other energy, board or lodging or both, housing construction, entertainment, amusement or the purveying of news or other information, but does not include the rendering of any service free of charge or under a contract of personal service.”

²⁹⁰ Sections 2 (1)(c)(iii), 2(1)(g), 11, 17 and 21, Consumer Protection Act, 1986.

²⁹¹ The Reserve Bank of India, Cyber Security framework in banks, RBI/2015-16/418, dated 02 June 2016, available at <https://www.rbi.org.in/scripts/NotificationUser.aspx?Id=10435&Mode=0>.

²⁹² Insurance and Regulatory Development Authority of India, Guidelines on Information and Cyber Security of Insurers, available at https://www.taxmann.com/TEMP/10401000000050602/guidelines_84007_2.PDF.

²⁹³ The ministry of electronics and information technology, e-Governance infrastructure, GI Cloud – A cloud computing initiative of MeitY, available at <http://meity.gov.in/content/gi-cloud-meghraj>.

²⁹⁴ The ministry of electronics and information technology, Invitation for Application/Proposal for Empanelment of Cloud Service Offerings of Cloud Service Providers, dated May 2017, available at <http://meity.gov.in/writereaddata/files/Application%20for%20Empanelment%20of%20CSPs.pdf>.

²⁹⁵ Department for promotion of industry and internal trade, Draft National E-Commerce Policy, dated 23 February 2019, available at https://dipp.gov.in/sites/default/files/DraftNational_e-commerce_Policy_23February2019.pdf.

²⁹⁶ Ministry of electronics and information technology, the Personal Data Protection Bill, 2018, available at https://meity.gov.in/writereaddata/files/Personal_Data_Protection_Bill,2018.pdf.

²⁹⁷ The ministry of electronics and information technology, Draft Information Technology [Intermediaries Guidelines (Amendment) Rules] 2018, dated 24 December 2018, available at https://www.meity.gov.in/writereaddata/files/Draft_Intermediary_Amendment_24122018.pdf.

²⁹⁸ In 2012, the then minister for telecom and information technology, Shri Kapil Sibal set up a committee under the chairmanship of Infosys’s co-founder, Shri S. Gopalakrishnan to recommend a framework for cloud computing. See Press Trust of India, Kris Gopalakrishnan to head govt cloud computing panel, available at <https://www.thehindubusinessline.com/info-tech/kris-gopalakrishnan-to-head-govt-cloud-computing-panel/article20468190.ece1>.

²⁹⁹ A. Kalra, Exclusive: India panel wants localisation of cloud storage data in possible blow to big tech firms, available at <https://www.reuters.com/article/us-india-data-localisation-exclusive/exclusive-india-panel-wants-localisation-of-cloud-storage-data-in-possible-blow-to-big-tech-firms-idUSKBN1KP08J>.

³⁰⁰ A. Kalra, Exclusive: India panel wants localisation of cloud storage data in possible blow to big tech firms, available at <https://www.reuters.com/article/us-india-data-localisation-exclusive/exclusive-india-panel-wants-localisation-of-cloud-storage-data-in-possible-blow-to-big-tech-firms-idUSKBN1KP08J>.

³⁰¹ A. Kalra, Exclusive: India panel wants localisation of cloud storage data in possible blow to big tech firms, available at <https://www.reuters.com/article/us-india-data-localisation-exclusive/exclusive-india-panel-wants-localisation-of-cloud-storage-data-in-possible-blow-to-big-tech-firms-idUSKBN1KP08J>.

C. RECOMMENDATIONS

1. Allow cross border flow of data

The PDP Bill, Draft E-Commerce Policy³⁰² and an RBI notification³⁰³ restrict cross border flows of data. CSPs prefer to locate their data centres in jurisdictions with cheap real estate, uninterrupted supply of electricity and water, cheap air conditioning infrastructure³⁰⁴, and lower temperatures as it is more cost efficient³⁰⁵. Shifting their data centres to India may prove costly for most CSPs³⁰⁶. Moreover, India's geography is susceptible to earthquakes, floods, landslides and avalanches. Therefore, free flows of data across jurisdictions should be allowed to keep CSPs viable and to increase the range of service they offer to Indian consumers. This will also enhance innovation and entrepreneurship in the country on account of access to low-cost cloud storage and computing services which will help achieve the goals of the 'Digital India' programme.

2. Ease regulatory burden on CSPs

The government claims to believe in light touch regulation for CSPs³⁰⁷. However, there are several proposals pertaining to the registration of CSPs³⁰⁸, and the requirement for CSPs above a certain threshold value to become a member of such industry bodies³⁰⁹. The government should ease the regulatory burden on CSPs and implement a light touch regulation in the true spirit of the word.

3. Govern CSPs under the ambit of the MeitY

The recommendations made by TRAI³¹⁰ indicate a conflict between the ministry of communications and the MeitY. CSPs should remain under the ambit of MeitY since they provide information technology related services. The present regulatory framework has so far proven to be conducive to the growth of cloud computing services. It is recommended that any improvements in regulatory regimes be implemented by amending the current legal framework as required, rather than supplanting it with an entirely new piece of legislation.

4. Allow CSPs to build and light their own fibre

As a means to establish India as a hub for global cloud computing, the NDCP recommends that CSPs should be allowed to establish captive fibre networks³¹¹. Implementing this recommendation is a step in the right direction and will enable CSPs to improve their service offerings in India, which in turn will benefit Indian consumers.

³⁰² Paras 1.1 and 1.2, department for promotion of industry and internal trade, Draft National E-Commerce Policy, dated 23 February 2019, available at https://dipp.gov.in/sites/default/files/DraftNational_e-commerce_Policy_23February2019.pdf.

³⁰³ Reserve Bank of India, Storage of Payment System Data, RBI/2017-18/153, dated 6 April, 2018, available at <https://www.rbi.org.in/Scripts/NotificationUser.aspx?Id=11244&Mode=0>.

³⁰⁴ E. Dzurko, The Why and Where of Choosing a Data Centre Location, available at <https://www.expedient.com/blog/the-where-and-why-of-choosing-data-center-location/>.

³⁰⁵ J. Stanganelli, 6 Tips for placing your next data centre, available at <https://www.hpe.com/us/en/insights/articles/6-tips-for-placing-your-next-data-center-1710.html>.

³⁰⁶ M. Karnik, The reasons behind Mumbai's ever increasing, unaffordable home prices, available at <https://qz.com/india/540983/the-reasons-behind-mumbais-ever-increasing-unaffordable-home-prices/>.

³⁰⁷ Telecom Regulatory Authority of India, Recommendations on Cloud Services, dated 16 August 2017 available at https://main.trai.gov.in/sites/default/files/Recommendations_cloud_computing_16082017.pdf; Ministry of electronics and information technology, National Digital Communications Policy, 2018 available at <http://dot.gov.in/sites/default/files/EnglishPolicy-NDCP.pdf>; Ministry of electronics and information technology, India's Trillion Dollar Digital Opportunity Report, dated 20 February 2019, available at <http://pib.nic.in/PressReleaseframePage.aspx?PRID=1565669>.

³⁰⁸ Para 4.1 (ii), Telecom Regulatory Authority of India, Recommendations on Cloud Services, dated 16 August 2017, available at https://main.trai.gov.in/sites/default/files/Recommendations_cloud_computing_16082017.pdf.

³⁰⁹ Para 4.1 (ii), Telecom Regulatory Authority of India, Recommendations on Cloud Services, dated 16 August 2017, available at https://main.trai.gov.in/sites/default/files/Recommendations_cloud_computing_16082017.pdf.

³¹⁰ Telecom Regulatory Authority of India, Recommendations on Cloud Services, dated 16 August 2017, available at https://main.trai.gov.in/sites/default/files/Recommendations_cloud_computing_16082017.pdf.

³¹¹ Department of telecommunications, National Digital Communications Policy, 2018, available at <http://dot.gov.in/sites/default/files/EnglishPolicy-NDCP.pdf>.

EMERGING TECHNOLOGIES: ARTIFICIAL INTELLIGENCE AND THE INTERNET OF THINGS

A. Context

As of June 2019, there are no distinct legislations, rules or regulations which govern artificial intelligence (“AI”) and the internet of things (“IoT”)/Machine-to-Machine learning (“M2Mlearning”)³¹². There are multiple legal, regulatory and policy instruments issued by different government agencies which influence the regulation of these technologies. These include the Personal Data Protection Bill, 2018 (“PDP Bill”)³¹³, the Information Technology Act, 2000 (“IT Act”)³¹⁴, the Information Technology (Reasonable security practices and procedures and sensitive personal data or information) Rules, 2011 (“SPDI Rules”)³¹⁵, and the Draft National E-commerce Policy (“Draft E-Commerce Policy”)³¹⁶.

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Internet of Things

Specific instruments which speak to IoT regulation in India are the National Telecom M2M Roadmap (“M2M Roadmap”)³¹⁷ and the IoT Policy document (“IoT Policy”)³¹⁸. Telecom Regulatory Authority of India’s (“TRAI”)consultation paper on spectrum, roaming and quality of service related requirements in M2M communications (“TRAI M2M Consultation Paper”)³¹⁹, its recommendations on spectrum, roaming and quality of service related requirements in M2M communications (“TRAI M2M Recommendations”)³²⁰, and the Department of Telecommunications (“DoT”) issued instructions for implementing restrictive features for SIMs used only for Machine-to-Machine communication services (“M2M SIM Guidelines”)³²¹.

Artificial Intelligence

Presently, there are two dedicated resources on developing AI frameworks in India. These are the government-constituted task force report on AI for India’s Economic Transformation (“AI Task Force Report”)³²² and the NITI Aayog’s ‘National Strategy for Artificial Intelligence’ (“AI National Strategy”)³²³.

³¹² Para 1.1, department of telecommunications, National Telecom M2M Roadmap, dated May 2015, available at <http://dot.gov.in/sites/default/files/National%20Telecom%20M2M%20Roadmap.pdf>.

³¹³ Ministry of electronics and information technology, The Personal Data Protection Bill, 2018, available at https://www.prsindia.org/sites/default/files/bill_files/Draft%20Personal%20Data%20Protection%20Bill%2C%202018%20Draft%20Text.pdf.

³¹⁴ The Information Technology Act, 2000.

³¹⁵ The Information Technology (Reasonable security practices and procedures and sensitive personal data or information) Rules, 2011.

³¹⁶ Department for promotion of industry and internal trade, Draft National e-Commerce Policy, dated 23 February 2019, available at https://dipp.gov.in/sites/default/files/DraftNational_e-commerce_Policy_23February2019.pdf.

³¹⁷ Department of telecommunications, National Telecom M2M Roadmap, dated May 2015, available at <http://dot.gov.in/sites/default/files/National%20Telecom%20M2M%20Roadmap.pdf>.

³¹⁸ Ministry of electronics and information technology, Internet of Things, dated 22 July 2016, available at <https://meity.gov.in/content/internet-things>.

³¹⁹ Telecom Regulatory Authority of India, Consultation Paper on Spectrum, Roaming and QoS related requirements in Machine-to-Machine (M2M) Communications, dated 18 October 2016, available at https://main.traai.gov.in/sites/default/files/Consultation_Paper_M2M%20_18_October_2016.pdf.

³²⁰ Telecom Regulatory Authority of India, Recommendations on “Spectrum, Roaming and QoS related requirements in Machine-to-Machine (M2M) Communications”, dated 05 September 2017, available at https://main.traai.gov.in/sites/default/files/Recommendations_M2M_05092017.pdf.

³²¹ Department of telecommunications, ‘Instructions for implementing restrictive features for SIMs used only for Machine-to-Machine (M2M) communication services (M2M SIMs) and related to Know Your Customer (KYC) instructions for issuing M2M SIMs to entity/organisation providing M2M Communication Services under bulk category and instructions for Embedded-SIMs (e-SIMs)’, dated 16 May 2018, available at <http://dot.gov.in/sites/default/files/M2M%20Guidelines.PDF?download=1>.

³²² Department for promotion of industry and internal trade, Report of Task Force on Artificial Intelligence, dated 20 March 2018, available at <https://dipp.gov.in/whats-new/report-task-force-artificial-intelligence>.

³²³ NITI Aayog, Discussion Paper on the ‘National Strategy for Artificial Intelligence’, dated June 2018, available at https://niti.gov.in/writereaddata/files/document_publication/NationalStrategy-for-AI-Discussion-Paper.pdf.

B. CURRENT STATE OF LAW AND POLICY

Internet of Things

IoT service providers in India have to comply with the standards for handling personal data as per Section 43A of the IT Act and the SPDI Rules framed under it at present. Once the PDP Bill is enacted, these service providers will have to comply with its stipulations on notice³²⁴, consent³²⁵, purpose limitation³²⁶, collection limitation³²⁷, codes of practice³²⁸, and cross-border transfer³²⁹, amongst other things.

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For all stakeholders who wish to participate in the M2M communications industry in India, the M2M Roadmap serves as the main point of reference at present. It recommends the registration of M2M service providers with the DoT and states that they should be governed by relevant DoT³³⁰ guidelines, in addition to the applicable laws of the land³³¹. The TRAI M2M Recommendations echo this recommendation as well³³². TRAI also recommends 'graded' security certifications for devices³³³ according to their functionality, the sensitivity of the data that they collect and the costs of remedying security lapses³³⁴.

³²⁴ Section 8, ministry of electronics and information technology, the Personal Data Protection Bill, 2018, available at https://www.prsindia.org/sites/default/files/bill_files/Draft%20Personal%20Data%20Protection%20Bill%2C%202018%20Draft%20Text.pdf.

³²⁵ Section 12, ministry of electronics and information technology, the Personal Data Protection Bill, 2018, available at https://www.prsindia.org/sites/default/files/bill_files/Draft%20Personal%20Data%20Protection%20Bill%2C%202018%20Draft%20Text.pdf.

³²⁶ Section 5, ministry of electronics and information technology, the Personal Data Protection Bill, 2018, available at https://www.prsindia.org/sites/default/files/bill_files/Draft%20Personal%20Data%20Protection%20Bill%2C%202018%20Draft%20Text.pdf.

³²⁷ Section 6, ministry of electronics and information technology, the Personal Data Protection Bill, 2018, available at https://www.prsindia.org/sites/default/files/bill_files/Draft%20Personal%20Data%20Protection%20Bill%2C%202018%20Draft%20Text.pdf.

³²⁸ Section 61, ministry of electronics and information technology, the Personal Data Protection Bill, 2018, available at https://www.prsindia.org/sites/default/files/bill_files/Draft%20Personal%20Data%20Protection%20Bill%2C%202018%20Draft%20Text.pdf.

³²⁹ Sections 40 and 41, ministry of electronics and information technology, the Personal Data Protection Bill, 2018, available at https://www.prsindia.org/sites/default/files/bill_files/Draft%20Personal%20Data%20Protection%20Bill%2C%202018%20Draft%20Text.pdf.

³³⁰ Para 4.2.1, Department of telecommunications, National Telecom M2M Roadmap, dated May 2015, available at <http://dot.gov.in/sites/default/files/National%20Telecom%20M2M%20Roadmap.pdf>.

³³¹ Para 4.2.1, department of telecommunications, National Telecom M2M Roadmap, dated May 2015, available at <http://dot.gov.in/sites/default/files/National%20Telecom%20M2M%20Roadmap.pdf>.

³³² Para 2.70, Telecom Regulatory Authority of India, Recommendations on "Spectrum, Roaming and QoS related requirements in Machine-to-Machine (M2M) Communications", dated 05 September 2017, available at https://main.traai.gov.in/sites/default/files/Recommendations_M2M_05092017.pdf.

³³³ Para 2.79, Telecom Regulatory Authority of India, Recommendations on "Spectrum, Roaming and QoS related requirements in Machine-to-Machine (M2M) Communications", dated 05 September 2017, available at https://main.traai.gov.in/sites/default/files/Recommendations_M2M_05092017.pdf.

³³⁴ Para 2.79, Telecom Regulatory Authority of India, Recommendations on "Spectrum, Roaming and QoS related requirements in Machine-to-Machine (M2M) Communications", dated 05 September 2017, available at https://main.traai.gov.in/sites/default/files/Recommendations_M2M_05092017.pdf.

Artificial Intelligence

As of June 2019, there is no consolidated legal framework which regulates the functioning of AI in India. Until such time as this framework is developed, AI service providers will also have to comply with the provisions of the IT Act, SPDI Rules and the PDP Bill like IoT service providers, since they also collect personal and/or sensitive personal information from their customers. As regards policy-making for AI, the AI Task Force Report identifies standard setting for AI as an important goal in the AI space. This would include data storage and privacy standards, communication standards for autonomous systems and standards for interoperability between AI systems³³⁵.

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The latest document which has shaped the way forward on policy making for AI is the NITI Aayog's AI National Strategy. It identifies five priority sectors for focused intervention: healthcare³³⁶; agriculture³³⁷; education and skilling³³⁸; smart cities and infrastructure³³⁹; and smart mobility and transportation³⁴⁰. It also makes recommendations for increasing the uptake of AI in India. These include improving research capabilities³⁴¹, reskilling of labour³⁴², facilitating adoption of AI through democratisation of data and making it accessible to start-ups and researchers³⁴³, and addressing concerns around ethics, privacy and security of AI³⁴⁴.

C. RECOMMENDATIONS

Internet of Things

1. Introduce relaxed standards of consent for IoT devices

IoT service providers will face a number of practical impediments in operationalising the current requirements for notice and consent under the PDP Bill³⁴⁵. For instance, IoT devices that lack large display screens such as smartwatches and smart home appliances will simply be unable to display notices to customers. In other cases, seeking the consent of individuals for data collection can even defeat the purpose of IoT devices like security cameras. For technologies that use facial recognition to track management and attendance of a group, obtaining the consent of hundreds of individuals simultaneously will be impracticable. Therefore, some degree of flexibility in the standards of notice and consent imposed on IoT service providers would go a long way in ensuring that they can deliver their full range of benefits to consumers without being obstructed by onerous compliances. IoT developers and service providers may have to coordinate with the Data Protection Authority proposed to be established under the PDP Bill to develop practical guidelines to work around these issues.

³³⁵ Page 49, department for promotion of industry and internal trade, Report of Task Force on Artificial Intelligence, dated 20 March 2018, available at <https://dipp.gov.in/whats-new/report-task-force-artificial-intelligence>.

³³⁶ Page 24, NITI Aayog, Discussion Paper on the 'National Strategy for Artificial Intelligence', dated June 2018, available at https://niti.gov.in/writereaddata/files/document_publication/NationalStrategy-for-AI-Discussion-Paper.pdf.

³³⁷ Page 30, NITI Aayog, Discussion Paper on the 'National Strategy for Artificial Intelligence', dated June 2018, available at https://niti.gov.in/writereaddata/files/document_publication/NationalStrategy-for-AI-Discussion-Paper.pdf.

³³⁸ Page 35, NITI Aayog, Discussion Paper on the 'National Strategy for Artificial Intelligence', dated June 2018, available at https://niti.gov.in/writereaddata/files/document_publication/NationalStrategy-for-AI-Discussion-Paper.pdf.

³³⁹ Page 39, NITI Aayog, Discussion Paper on the 'National Strategy for Artificial Intelligence', dated June 2018, available at https://niti.gov.in/writereaddata/files/document_publication/NationalStrategy-for-AI-Discussion-Paper.pdf.

³⁴⁰ Page 41, NITI Aayog, Discussion Paper on the 'National Strategy for Artificial Intelligence', dated June 2018, available at https://niti.gov.in/writereaddata/files/document_publication/NationalStrategy-for-AI-Discussion-Paper.pdf.

³⁴¹ Page 50, NITI Aayog, Discussion Paper on the 'National Strategy for Artificial Intelligence', dated June 2018, available at https://niti.gov.in/writereaddata/files/document_publication/NationalStrategy-for-AI-Discussion-Paper.pdf.

³⁴² Page 64, NITI Aayog, Discussion Paper on the 'National Strategy for Artificial Intelligence', dated June 2018, available at https://niti.gov.in/writereaddata/files/document_publication/NationalStrategy-for-AI-Discussion-Paper.pdf.

³⁴³ Page 71, NITI Aayog, Discussion Paper on the 'National Strategy for Artificial Intelligence', dated June 2018, available at https://niti.gov.in/writereaddata/files/document_publication/NationalStrategy-for-AI-Discussion-Paper.pdf.

³⁴⁴ Page 85, NITI Aayog, Discussion Paper on the 'National Strategy for Artificial Intelligence', dated June 2018, available at https://niti.gov.in/writereaddata/files/document_publication/NationalStrategy-for-AI-Discussion-Paper.pdf.

³⁴⁵ Section 8, ministry of electronics and information technology, the Personal Data Protection Bill, 2018, available at https://www.prsindia.org/sites/default/files/bill_files/Draft%20Personal%20Data%20Protection%20Bill%2C%202018%20Draft%20Text.pdf.

2. Revise purpose limitation requirements for IoT devices

IoT service providers cannot always inform consumers of the purposes for which their personal data is being processed at the time of data collection, as is required under the PDP Bill³⁴⁶. This is because it is difficult to limit the purpose for which personal data may be used in the future in the case of IoT ecosystems, as these purposes continue to evolve with the evolving functionality of IoT devices. For instance, a simple software update can transform the functionality of a smartphone such that it becomes capable of fulfilling new purposes with the personal data it collects. Thus, the purpose limitation requirements as prescribed under the PDP Bill must be revised such that they can be applied to IoT service providers.

3. Introduce device-specific certification standards

The IoT ecosystem offers immense possibilities in India for value addition in the lives of regular consumers, revenue generation and employment. However, the government must take measures to create a conducive market for IoT device and component manufacturers. A helpful step in this direction would be to act upon TRAI's recommendation to provide differential certifications for different IoT products. The rationale for this is that products with different levels of functionality, security concerns and data collection capabilities should not be fettered by onerous certification requirements since this would impede manufacturing in the country. This will also allow devices such as IoT enabled smartphones to have different certification requirements compared to IoT enabled smart-bulbs, which have entirely different functionalities.

4. Encourage adoption of IoT within the government

Adequate capacity building interventions for government officials will ensure that they can leverage IoT as a tool to resolve their problems and resource constraints. A standardised module of training for government officials should be prepared and tested on a pilot basis and be rolled out on a large scale if it is successful.

5. Promote consumer awareness

It is important to instil confidence in IoT devices and their security to encourage the adoption of these devices in the Indian market. Therefore, the government should promote user education, including training on how to ensure the security of IoT devices through customisable passwords, biometric passwords and external software such as firmware³⁴⁷. Consumers should also be made aware of the various benefits that IoT devices can bring to their lives in terms of convenience, energy conservation, and lower costs³⁴⁸.

6. Recognise global best practices for IoT devices

Consumer confidence in IoT devices will be greatly improved with the recognition of global best practices, standards and certifications regarding the security and quality of IoT devices. This could be along the lines of the system followed by the "TÜViT"³⁴⁹ for information and communication technology in Germany³⁵⁰. They assess security and quality characteristics against agreed and transparent standards and create the necessary trust in information technology products, systems and processes.

³⁴⁶ Section 8(1)(a), ministry of electronics and information technology, the Personal Data Protection Bill, 2018, available at https://www.prsindia.org/sites/default/files/bill_files/Draft%20Personal%20Data%20Protection%20Bill%2C%202018%20Draft%20Text.pdf.

³⁴⁷ S. Johari, #NAMApolicy: Challenges with IoT biometrics, consent, regulation, data sharing and more, available at <https://www.medianama.com/2018/12/223-namapolicy-challenges-with-iot-biometrics-consent-regulation-data-sharing-and-more/>.

³⁴⁸ British Computer Society – The Chartered Institute for IT, The Societal Impact of the Internet of Things, dated 14 February 2013, available at <https://www.bcs.org/upload/pdf/societal-impact-report-feb13.pdf>.

³⁴⁹ Tuvit, Tuvit Nord Group, available at <https://www.tuvit.de/en/home/>.

³⁵⁰ Para 2.81, Telecom Regulatory Authority of India, Recommendations on "Spectrum, Roaming and QoS related requirements in Machine-to-Machine (M2M) Communications", dated 05 September 2017, available at https://main.traf.gov.in/sites/default/files/Recommendations_M2M_05092017.pdf.

Artificial Intelligence

1. Develop an implementation roadmap

The AI National Strategy does not call for comments or responses from stakeholders, thereby providing little clarity on the next steps to be taken towards promoting AI in India. Therefore, the government should develop an implementation roadmap that tailors the broad-based recommendations of the AI National Strategy for different sectors to ensure their practical applicability.

2. Revise purpose limitation requirements for AI

Just as with IoT service providers, AI service providers will be unable to meet the purpose limitation requirements under the PDP Bill³⁵¹. Therefore, the revisions to the purpose limitation requirements for IoT service providers should be made applicable to AI service providers as well.

3. Discuss patents frameworks for AI algorithms

Presently, section 3(k) of the Patents Act, 1970 exempts AI algorithms from being patented. This severely deters AI development in the country and exposes AI developers to intellectual property theft. Thus, the government should seriously consider developing a patents framework for the protection of AI algorithms.

4. Address privacy concerns associated with AI

The AI National Strategy suggests the adoption of intelligent surveillance systems, including social media intelligence platforms to track people³⁵². This may conflict with existing privacy laws, the proposals of the PDP Bill, and individual privacy and freedoms including speech and assembly³⁵³. All steps taken by the government towards the adoption and development of AI in the future must consider these inconsistencies and resolve them at the earliest.

5. Improve consumer awareness

As is the case with IoT, the AI ecosystem too must inspire the confidence of the Indian consumer base in terms of safety and privacy. This can be done by organising workshops and undertaking live demonstrations of different AI use cases. This recommendation finds place in the AI National Strategy as well³⁵⁴. The government can also ensure that it increases the familiarity of citizens with AI by incorporating elements of AI in everyday public life. Such integration can take the form of AI use for traffic optimization, predictive maintenance of public infrastructure, and customer service activities³⁵⁵.

³⁵¹ Section 8(1)(a), ministry of electronics and information technology, the Personal Data Protection Bill, 2018, available at https://www.prsindia.org/sites/default/files/bill_files/Draft%20Personal%20Data%20Protection%20Bill%2C%202018%20Draft%20Text.pdf.

³⁵² Page 40, NITI Aayog, Discussion Paper on the 'National Strategy for Artificial Intelligence', dated June 2018, available at https://niti.gov.in/writereaddata/files/document_publication/NationalStrategy-for-AI-Discussion-Paper.pdf.

³⁵³ Centre for Internet and Society, NITI Aayog Discussion Paper: An aspirational step towards India's AI policy, available at <https://cis-india.org/internet-governance/blog/niti-aayog-discussion-paper-an-aspirational-step-towards-india2019s-ai-policy>.

³⁵⁴ Recommendation 4, NITI Aayog, Discussion Paper on the 'National Strategy for Artificial Intelligence', available at https://niti.gov.in/writereaddata/files/document_publication/NationalStrategy-for-AI-Discussion-Paper.pdf.

³⁵⁵ M. Carrasco, The Citizen's Perspective on the Use of AI in Government, available at <https://www.bcg.com/en-in/publications/2019/citizen-perspective-use-artificial-intelligence-government-digital-benchmarking.aspx>.

6. Introduce AI in government offices

The uptake of AI technologies in society can also be catalysed by building capacity and trust in the government workforce. The government should encourage the adoption of AI applications in the workplace³⁵⁶. This would ensure that there is a sense of ownership and accountability in the use of AI technology in government departments and instil a sense of trust and comfort with this technology. The absorption of AI technologies by government offices will lead to improved efficiency, quality and security of administrative services³⁵⁷. A live use case is presented by the Department of Homeland Security in the US. The Department of Homeland Security's Citizenship and Immigration and Services has created a virtual assistant, EMMA that can respond accurately to human language. EMMA shows relevant answers to questions posed to it and answers almost half a million questions per month. EMMA learns from its own experience and gets smarter as it answers more questions³⁵⁸. Using AI in government offices would also help overcome resource constraints³⁵⁹. This in turn would allow for resource redistribution and workforce optimization³⁶⁰. For instance, a study reported that electronic document discovery, located 95 per cent of relevant documents for legal cases, compared to an average of 50 per cent for humans³⁶¹. Further, this exercise was completed by AI technology in a fraction of the time that humans needed³⁶². As a natural consequence, paperwork burdens would be reduced³⁶³, which would automatically reduce backlogs³⁶⁴.

³⁵⁶ Para 3.5, the Federal Government (Germany), Key points for a Federal Government Strategy on Artificial Intelligence, dated 18 July 2018, available at https://www.bmwi.de/Redaktion/EN/Downloads/E/key-points-for-federal-government-strategy-on-artificial-intelligence.pdf?__blob=publicationFile&v=5.

³⁵⁷ Para 3.7, the Federal Government (Germany), Key points for a Federal Government Strategy on Artificial Intelligence, dated 18 July 2018, available at https://www.bmwi.de/Redaktion/EN/Downloads/E/key-points-for-federal-government-strategy-on-artificial-intelligence.pdf?__blob=publicationFile&v=5.

³⁵⁸ KünstlicheIntelligenz, EMMA, available at <https://kintelligenz.de/robot.html>.

³⁵⁹ W. D. Eggers et al, AI-augmented government: Using cognitive technologies to redesign public sector work, available at <https://www2.deloitte.com/insights/us/en/focus/cognitive-technologies/artificial-intelligence-government.html#endnote-11>.

³⁶⁰ W. D. Eggers et al, AI-augmented government: Using cognitive technologies to redesign public sector work, available at <https://www2.deloitte.com/insights/us/en/focus/cognitive-technologies/artificial-intelligence-government.html#endnote-11>.

³⁶¹ A. Kershaw, Automated document review proves its reliability, Digital Discovery & e-Evidence, available at www.akershaw.com/Documents/2004AEKDocReviewArticle.pdf.

³⁶² A. Kershaw, Automated document review proves its reliability, Digital Discovery & e-Evidence, available at www.akershaw.com/Documents/2004AEKDocReviewArticle.pdf.

³⁶³ W. D. Eggers et al, AI-augmented government: Using cognitive technologies to redesign public sector work, available at <https://www2.deloitte.com/insights/us/en/focus/cognitive-technologies/artificial-intelligence-government.html#endnote-11>.

³⁶⁴ W. D. Eggers et al, AI-augmented government: Using cognitive technologies to redesign public sector work, available at <https://www2.deloitte.com/insights/us/en/focus/cognitive-technologies/artificial-intelligence-government.html#endnote-11>.

DIGITAL PAYMENTS

A. Context

A digital payment is the transfer of funds which is initiated by a person by way of an instruction, authorisation or order to a bank to debit or credit an account maintained with that bank through electronic means³⁶⁵. These payments are facilitated with the use of 'payment systems' which enable payments to be effected between a payer and a beneficiary, and include any system enabling credit card operations, debit card operations, smart card operations, money transfer operations or similar operations³⁶⁶. In India, a 'payment system' can only be operated by entities authorised by the Reserve Bank of India ("RBI")³⁶⁷. Apart from payment systems, various technology service providers, infrastructure providers and merchants also participate in the digital payments landscape by partnering with entities authorised and regulated by RBI.

B. Current state of law and policy

Licensing payment systems

The current legal framework governing 'payment systems' in India is given in the Payment and Settlement Systems Act 2007 ("**PSS Act**"). Under this law, the Board for Regulation and Supervision of Payment and Settlement System Regulations³⁶⁸ ("**BPSS**"), with the assistance of the Department of Payments and Settlement Systems ("**DPSS**")³⁶⁹, is in charge of discharging the regulatory functions vested in RBI. The PSS Act empowers RBI to issue directions to regulate the operation and management of payment systems³⁷⁰. A 'payment system' as defined under the PSS Act is "a system that enables payment to be effected between a payer and a beneficiary, involving clearing, payment or settlement service or all of them..."³⁷¹. Therefore, settlement of a payment obligation on behalf of a payer (based on an instruction by the payer) to a beneficiary, amounts to operation of a 'payment system'. Operating a payment system in India requires a valid authorisation from RBI under the PSS Act³⁷², while operating an unauthorised 'payment system' attracts onerous penal provisions under the PSS Act. It is punishable with (a) imprisonment for a term which ranges from a minimum of 1 (one) month to 10 (ten) years; (b) fine upto INR 1,00,00,000 (Rupees one crore), with a further fine which may extend to INR 1,00,000 (Rupees one lakh) for every day that the contravention continues; or (c) both (a) and (b)³⁷³.

Customer identification and authentication

The RBI (Know Your Customer (KYC)) Directions, 2016³⁷⁴, ("**KYC Master Direction**") requires entities such as banks, non-banking financial companies ("**NBFCs**") and pre-paid payment instrument ("**PPI**") issuers

³⁶⁵ Section 2(1)(c), the Payment and Settlement Systems Act, 2007: "electronic funds" transfer means any transfer of short title, extent and commencement funds which is initiated by a person by way of instruction, authorisation or order to a bank to debit or credit an account maintained with that bank through electronic means and includes point of sale transfers; automated teller machine transactions, direct deposits or withdrawal of funds, transfers initiated by telephone, internet and, card payment"; NITI Aayog, Digital Payments: Trends, Issues and Opportunities, dated July 2018, available at https://niti.gov.in/writereaddata/files/document_publication/DigitalPaymentBook.pdf.

³⁶⁶ Section 2(1)(i), the Payment and Settlement Systems Act, 2007: "payment system" means a system that enables payment to be effected between a payer and a beneficiary, involving clearing, payment or settlement service or all of them, but does not include a stock exchange; Explanation.- For the purposes of this clause, "payment system" includes the systems enabling credit card operations, debit card operations, smart card operations, money transfer operations or similar operations".

³⁶⁷ Section 4(1), the Payment and Settlement Systems Act, 2007.

³⁶⁸ Rule 3, the Board for Regulation and Supervision of Payment and Settlement Systems Regulations, 2008.

³⁶⁹ Rule 4, the Board for Regulation and Supervision of Payment and Settlement Systems Regulations, 2008.

³⁷⁰ The 'Master Direction on Issuance and Operation of Prepaid Payment Instruments', dated 11 October 2017 is issued by the Reserve Bank of India, in exercise of the power conferred under Section 18 of the Payment and Settlement Systems Act, 2007.

³⁷¹ Section 2(i), the Payment and Settlement Systems Act, 2007.

³⁷² Section 4(1), the Payment and Settlement Systems Act, 2007.

³⁷³ Section 26(1), the Payment and Settlement Systems Act, 2007.

³⁷⁴ The Reserve Bank of India (Know Your Customer (KYC)) Directions, 2016, available at <https://rbi.org.in/Scripts/NotificationUser.aspx?Id=10292&Mode=0#AP1>.

(collectively “**Regulated Entities**”³⁷⁵ to follow certain customer identification or KYC procedures at the time of on-boarding customers³⁷⁶. At present, to undertake customer identification, regulated entities are required to collect (i) a certified copy of an officially valid document (“**OVD**”)³⁷⁷; (ii) one recent photograph; and (iii) PAN, from individuals. On 29 May 2019³⁷⁸, RBI amended the KYC Master Directions to include ‘proof of possession of Aadhaar’ as an OVD³⁷⁹. It also allowed banks to undertake Aadhaar authentication for individuals who volunteer to the use of their Aadhaar as a means of identification³⁸⁰.

Digital payment intermediation

In 2009, RBI took note of the rising popularity of digital modes of payment and followed suit by issuing the ‘Directions for opening and operation of accounts and settlement of payments for electronic payment transactions involving intermediaries 2009’ (“**Intermediary Directions**”)³⁸¹. The Intermediary Directions regulate entities (such as payment aggregators and payment gateways) which facilitate digital payments by collecting funds from customers (through electronic modes of payment) for onward settlement to merchants³⁸². These intermediaries are not classified or regulated as ‘payment systems’ and therefore do not require any authorisation or license from RBI under the PSS Act. The RBI highlighted that as standard practice, intermediaries were crediting funds (collected on behalf of customers) to their own bank accounts, before onward settlement to merchants³⁸³. Therefore, any delay or failure by the intermediary to transfer funds from its own account to the merchant posed a risk to the entire payment facilitation system. In order to contain this risk, the Intermediary Directions require entities classified as intermediaries to pool funds collected from customers in an account maintained with a bank³⁸⁴. These funds must be settled to merchants within a maximum of three days³⁸⁵ from ‘completion of transaction’³⁸⁶. The account in which funds are pooled is considered as an internal account of the bank, from which the intermediary cannot draw out any amounts apart from its commission³⁸⁷. The Intermediary Directions have not been updated or amended by RBI since 2009.

³⁷⁵ Para 3(b)(xiii), Reserve Bank of India (Know Your Customer (KYC) Directions, 2016, available at <https://rbi.org.in/Scripts/NotificationUser.aspx?Id=10292&Mode=0#AP1>.

³⁷⁶ Para 4, Reserve Bank of India (Know Your Customer (KYC) Directions, 2016, available at <https://rbi.org.in/Scripts/NotificationUser.aspx?Id=10292&Mode=0#AP1>.

³⁷⁷ Para 3(a)(ix), Reserve Bank of India (Know Your Customer (KYC) Directions, 2016, available at <https://rbi.org.in/Scripts/NotificationUser.aspx?Id=10292&Mode=0#AP1>.

³⁷⁸ Reserve Bank of India (Know Your Customer (KYC) Directions, 2016, available at <https://rbi.org.in/Scripts/NotificationUser.aspx?Id=10292&Mode=0#AP1>.

³⁷⁹ Para 3(a)(ix), Reserve Bank of India (Know Your Customer (KYC) Directions, 2016, available at <https://rbi.org.in/Scripts/NotificationUser.aspx?Id=10292&Mode=0#AP1>.

³⁸⁰ Para 16(ii), Reserve Bank of India (Know Your Customer (KYC) Directions, 2016, available at <https://rbi.org.in/Scripts/NotificationUser.aspx?Id=10292&Mode=0#AP1>.

³⁸¹ Reserve Bank of India, Directions for opening and operation of Accounts and settlement of payments for electronic payment transactions involving intermediaries 2009, dated 24 November 2009, available at <https://www.rbi.org.in/scripts/NotificationUser.aspx?Mode=0&Id=5379>.

³⁸² Para 2.1, Reserve Bank of India, Directions for opening and operation of accounts and settlement of payments for electronic payment transactions involving intermediaries 2009, dated 24 November 2009, available at <https://www.rbi.org.in/scripts/NotificationUser.aspx?Mode=0&Id=5379>.

³⁸³ Para 1.2, Reserve Bank of India, Directions for opening and operation of accounts and settlement of payments for electronic payment transactions involving intermediaries 2009, dated 24 November 2009, available at <https://www.rbi.org.in/scripts/NotificationUser.aspx?Mode=0&Id=5379>.

³⁸⁴ Para 3.1, Reserve Bank of India, Directions for opening and operation of accounts and settlement of payments for electronic payment transactions involving intermediaries 2009, dated 24 November 2009, available at <https://www.rbi.org.in/scripts/NotificationUser.aspx?Mode=0&Id=5379>.

³⁸⁵ In case of payments to merchants which do not involve transfer of funds to nodal account, settlement must be effected within 2 (two) days of ‘completion of transaction’.

³⁸⁶ Para 4.1, Reserve Bank of India, Directions for opening and operation of accounts and settlement of payments for electronic payment transactions involving intermediaries 2009, dated 24 November 2009, available at <https://www.rbi.org.in/scripts/NotificationUser.aspx?Mode=0&Id=5379>.

³⁸⁷ Para 3.3(ii)(d), Reserve Bank of India, Directions for opening and operation of accounts and settlement of payments for electronic payment transactions involving intermediaries 2009, dated 24 November 2009, available at <https://www.rbi.org.in/scripts/NotificationUser.aspx?Mode=0&Id=5379>.

PPI as a mode of digital payment³⁸⁸

The RBI has issued the 'Master Direction on Issuance and Operation of Prepaid Payment Instruments' ("**PPI Guidelines**"), which governs the issuance and operation of PPIs. The PPI Guidelines define a PPI as a payment instrument that facilitates purchase of goods and services 'against the value stored in such instruments³⁸⁹'. Therefore, a PPI is an instrument which, (a) holds a prepaid amount as stored value, and (b) facilitates money transfers and spends from such stored value for purchase of goods and services from participating merchants. Only entities with prior authorisation from RBI are permitted to issue and operate payment systems for issuance of PPIs³⁹⁰. A semi-closed system of prepaid payment instrument ("**Semi-closed PPI**") is a type of PPI defined under the PPI Guidelines. A Semi-closed PPI permits spends at participating merchants i.e. merchants with which the PPI issuer has entered into agreements.

Security framework and measures:

The PSS Act mandates all applicants of payment systems to have suitable security frameworks in place to receive an authorization to operate payment systems, failing which RBI may not grant authorization³⁹¹. Presently any data classified as 'sensitive personal data or information' is protected against breaches of privacy, confidentiality and security under the Information Technology Act, 2000³⁹² ("**IT Act**"), and the Information Technology (Reasonable Security Practices and Procedures and Sensitive Personal Data or Information) Rules, 2011 ("**SPDI Rules**") framed under it. Sensitive personal data or information under these rules includes financial information³⁹³.

Customer grievance and redressals

Currently, consumer grievance and redressals are governed by a number of guidelines and notifications issued by RBI under Section 18 read with Section 10(2) of the PSS Act. The RBI also released the Digital Transactions Ombudsman Scheme 2019 ("**DTO Scheme**")³⁹⁴ recently which provides recourse for grievances associated with 'digital transactions', i.e. a payment transaction made through digital / electronic modes³⁹⁵. Pursuant to the scheme, RBI may appoint one of its officers as an ombudsman for digital transactions. A complaint may be filed free of cost with the ombudsman³⁹⁶.

³⁸⁸ Reserve Bank of India, the Master Direction on Issuance and Operation of Prepaid Payment Instruments, dated 11 October 2017, available at https://rbi.org.in/Scripts/BS_ViewMasDirections.aspx?id=11142.

³⁸⁹ Para 2.3, Reserve Bank of India, the Master Direction on Issuance and Operation of Prepaid Payment Instruments: "Prepaid Payment Instruments (PPIs): PPIs are payment instruments that facilitate purchase of goods and services, including financial services, remittance facilities, etc., against the value stored on such instruments."

³⁹⁰ Paras 1.6 and 1.8, Reserve Bank of India, the Master Direction on Issuance and Operation of Prepaid Payment Instruments, dated 11 October 2017, available at https://rbi.org.in/Scripts/BS_ViewMasDirections.aspx?id=11142.

³⁹¹ Section 7(1)(iii), Reserve Bank of India, the Master Direction on Issuance and Operation of Prepaid Payment Instruments, dated 11 October 2017, available at https://rbi.org.in/Scripts/BS_ViewMasDirections.aspx?id=11142.

³⁹² Section 43A, the Information Technology Act, 2000.

³⁹³ Rule 3, the Information Technology (Reasonable Security Practices and Procedures and Sensitive Personal Data or Information) Rules, 2011.

³⁹⁴ Reserve Bank of India, Digital Transactions Ombudsman Scheme, 2019, dated 31 January 2019, available at https://rbi.org.in/Scripts/BS_PressReleaseDisplay.aspx?prid=46163.

³⁹⁵ Para 3(5), Reserve Bank of India, Digital Transactions Ombudsman Scheme, 2019: "digital transaction' means a payment transaction in a seamless system effected without the need for cash at least in one of the two legs, if not in both. This includes transactions made through digital / electronic modes wherein both the originator and the beneficiary use digital / electronic medium to send or receive money."

³⁹⁶ Para 8, Reserve Bank of India, the Digital Transactions Ombudsman Scheme, 2019, dated 31 January 2019, available at <https://rbidocs.rbi.org.in/rdocs/Content/PDFs/OSDT31012019.pdf>.

Establishing the NPCI

The RBI and the Indian Banks' Association (“**IBA**”) together formed the National Payments Corporation of India (“**NPCI**”), a not-for-profit entity, to act as an umbrella organisation for operating retail payments and settlement systems in India. The NPCI functions with an intention to provide infrastructure to the entire banking system in India for physical as well as electronic payment for achieving greater efficiency in operations and widening the reach of payment systems. It operates the most widely used payment systems in the country such as the Aadhaar-enabled Payments System, the RuPay cards network as well as the Unified Payments Interface (“**UPI**”) amongst others. UPI is by far the fastest growing mode of digital payments³⁹⁷ and merges several banking features, seamless fund routing and merchant payments into a single application. It also caters to the “peer to peer” collect request which can be scheduled and paid as per requirement and convenience³⁹⁸.

Watal Committee Report³⁹⁹

On 09 December 2016, a committee on digital payments led by former finance secretary Mr. Ratan P. Watal (“**Watal Committee Report**”) submitted a report with recommendations to promote digital payments in the country. The Watal Committee Report recommended that payment regulation should be independent of the function of central banking⁴⁰⁰.

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The RBI's data localisation circular

In April 2018, the RBI issued a notification mandating that all data related to payment systems be locally stored only in India⁴⁰¹. All payment system providers were required to comply with this notification within six months, i.e., by October 2018⁴⁰².

Committee on deepening of digital payments

In January 2019, the RBI constituted a high-level committee on deepening of digital payments to assess the current levels of digital payments in financial inclusion, and to suggest measures to strengthen the security of such payments and encourage their growth in India. This committee has recommended that the government should target growth in the volume of low-value, high-volume, low-cost digital transactions over the next three years⁴⁰³.

³⁹⁷ BS Web Team, UPI transactions beat cards in first three months of Q4: NPCI, available at https://www.business-standard.com/article/pf/value-of-upi-transactions-beat-cards-in-first-three-months-of-q4-npci-119051600189_1.html.

³⁹⁸ National Payments Council of India, Unified Payments Interface Product Overview: Background, available at <https://www.npci.org.in/product-overview/upi-product-overview>.

³⁹⁹ Ministry of Finance, Watal Committee Report, dated 09 December 2016, available at http://finance.du.ac.in/du-finance/uploads/pdf/Reports/watal_report271216.pdf.

⁴⁰⁰ Page 155, Ministry of Finance, Watal Committee Report, dated 09 December 2016, available at http://finance.du.ac.in/du-finance/uploads/pdf/Reports/watal_report271216.pdf.

⁴⁰¹ Reserve Bank of India, Notification regarding the Storage of Payment Systems Data, dated 6 April 2018, available at <https://www.rbi.org.in/Scripts/NotificationUser.aspx?Id=11244&Mode=0>.

⁴⁰² Reserve Bank of India, Notification regarding the Storage of Payment Systems Data, dated 6 April 2018, available at <https://www.rbi.org.in/Scripts/NotificationUser.aspx?Id=11244&Mode=0>.

⁴⁰³ G. Gopakumar, Fast-track shift to digital payments: Nilekani panel, available at <https://www.livemint.com/politics/policy/fast-track-shift-to-digital-payments-nilekani-panel-1559582564493.html>.

RBI's framework for regulatory sandboxes

The RBI on 18 April 2019, issued a draft framework to promote innovations and competition in digital payments through the creation of 'regulatory sandboxes' ("RS") and ("RS Framework")⁴⁰⁴. A RS provides a pro-competitive regulatory framework which seeks to augment new innovations in test-environments. The RS could also lead to better outcomes for consumers through an increased range of products and services, reduced costs and improved access to financial services.

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Payments System and Settlement Bill 2018

On 15 August 2018, the 'Inter-Ministerial Committee for Finalisation of Amendments to the Payments and Settlement Act, 2007', recommended a draft law, the Payment and Settlement Systems Bill, 2018 ("PSS Bill") to replace the existing PSS Act⁴⁰⁵. The PSS Bill is currently under consideration by the government. The PSS Bill seeks to "foster competition, consumer protection, systemic stability and resilience in the payments sector"⁴⁰⁶. In line with the recommendation under the Watal Committee Report, the PSS Bill provides for the establishment of an independent Payments Regulatory Board ("PRB") to regulate the payments sector⁴⁰⁷.

RBI Payment and Settlement Systems in India: Vision – 2019-2021⁴⁰⁸

The recently released vision document of RBI outlines the roadmap for digital payments in India from 2019 to 2021. Its aim is to improve customer experience, empower payment system operators, formulate forward-looking regulation, enable the payments ecosystem and undertake risk-focused supervision. It consists of thirty-six action points and twelve outcomes that it hopes to achieve through the goalposts of competition, cost-effectiveness, convenience and confidence.

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⁴⁰⁴ Reserve Bank of India, Regulatory Sandbox Framework, dated 18 April 2019, available at <https://rbi.org.in/scripts/PublicationReportDetails.aspx?UrlPage=&ID=920>.

⁴⁰⁵ Part XII, ministry of finance, the Payment and Settlement Systems Bill, 2018, available at <https://dea.gov.in/sites/default/files/Payment%20and%20settlement.pdf>.

⁴⁰⁶ Preamble, ministry of finance, the Payment and Settlement Systems Bill, 2018, available at <https://dea.gov.in/sites/default/files/Payment%20and%20settlement.pdf>.

⁴⁰⁷ Section 3, ministry of finance, the Payment and Settlement Systems Bill, 2018, available at <https://dea.gov.in/sites/default/files/Payment%20and%20settlement.pdf>.

⁴⁰⁸ Reserve Bank of India, Vision Documents - Payment and Settlement Systems in India: Vision – 2019-2021, dated 15 May 2019, available at <https://www.rbi.org.in/Scripts/PublicationVisionDocuments.aspx?Id=921>.

C. RECOMMENDATIONS

1. Lower regulatory barriers to entry

The PSS Act's ambiguous and singular definition of 'payment systems'⁴⁰⁹ creates confusion on whether entities that merely provide payment technology platforms qualify as payment systems, and therefore require RBI authorisation under the PSS Act, or not⁴¹⁰. Moreover, the PSS Act provides a cumbersome process, heavy penalties and strict reporting requirements before authorizing the operation of payment systems. As a result, not only do market participants and new businesses not have clarity on the nature of authorization that they need from RBI and the kind of services that they can offer, but they are also burdened with onerous regulatory compliances. Therefore, the law must define payment systems more narrowly and classify various payment systems currently operational in the country. Additionally, it must also differentiate between payment systems and technology service providers which do not require authorisation from RBI under the PSS Act. UK law, for example, has different regulatory standards for (a) operators of payment systems, (b) payment service providers, and (c) infrastructure providers⁴¹¹. In fact, the Watal Committee Report also suggested that the parent law classify each participant in payment systems on the basis of the service provided⁴¹².

2. Adopt industry-led standards for non-systemically important payment systems

The PSS Act's singular definition of 'payment systems' disallows the identification of critical payment systems that require higher security standards. Consequently, payment systems that are not systematically important and do not pose a risk to the financial market infrastructure are made to go through the same level of compliance as those which may pose a fundamental risk to the payment ecosystem. Such non-systemically important payment systems should be exempted from adopting higher security standards and corresponding compliances. This will help new businesses reduce cost and create flexibility in operations. Market participants should be allowed to develop their own self-regulatory mechanism and code of good practices to address security concerns arising in their networks.

⁴⁰⁹ Section 2(1)(i), the Payment and Settlement Systems Act, 2007.

⁴¹⁰ For example, recently in March 2019, the Delhi high court sent a notice to the Reserve Bank of India and Google India enquiring about the operation of Google Pay in the country without an express authorization; Press Trust of India, How Is Google's G-Pay Operating Without Authorisation: Delhi HC Asks RBI, available at <https://www.livelaw.in/news-updates/googles-gpay-operating-without-authorisation-delhi-hc-rbi-144187>. In this instance the court must consider that Google Pay operates as a technology service provider to its partner banks to facilitate payments through the unified payment interface infrastructure. It is not part of payment processing or settlement and therefore does not require Reserve Bank of India authorisation as a payment system under the Payment Settlement Systems, Act; T. Bhalla, Google Pay responds to Delhi HC notice on operating without authorisation, available at <https://yourstory.com/2019/04/google-pay-response-delhi-hc-notice>.

⁴¹¹ Page 89, ministry of finance, Watal Committee Report, dated 09 December 2016, available at http://finance.du.ac.in/du-finance/uploads/pdf/Reports/watal_report271216.pdf.

⁴¹² Page 90, ministry of finance, Watal Committee Report, dated 09 December 2016, available at http://finance.du.ac.in/du-finance/uploads/pdf/Reports/watal_report271216.pdf.

3. Create clarity under the RS framework

The RS Framework envisages strict eligibility criteria for businesses to participate in the regulatory sandbox. Only 'start-ups' (according to DPIIT's definition of the term⁴¹³) will be considered for the sandbox⁴¹⁴. These criteria must be revised to also include other entities that do not qualify as 'start-ups' as defined by DPIIT. Customer adoption under the RS environment may be more effective if such entities with a critical mass of users are permitted to participate in the RS environment. Further, the RS Framework does not contemplate the role of licensed payment systems such as banks. Their role is in fact critical, given that many participants in the regulatory sandbox environment may not be directly regulated by RBI. Further, since the RS Framework does not exempt participants from regulatory requirements such as data privacy⁴¹⁵ and consumer protection⁴¹⁶, start-up entities may not have mechanisms in place to meet these levels of compliance. In addition, a buy-in from licensed entities may also be needed given that several fin-tech products and innovations are developed by unlicensed entities which have entered into contractual relationships with licensed entities to provide financial products to users. Moreover, one the key objectives of the RS Framework must be to effect policy change based on the observations made in the RS environment. If a product/service introduced here demonstrates commercial viability without compromising overall system security, RBI must consider issuing tailored or relaxed guidelines governing like products/services. This would dovetail into the larger goal of promoting competition, which would spur innovation and expand consumer choices.

4. Relax AFA for recurring transactions

The RBI currently requires an additional factor authentication ("AFA") on card not present transactions ("CNP Transactions")⁴¹⁷. This mandate also applies to all recurring transactions based on standing instructions given to the merchants by the cardholders. This creates an additional layer of friction and especially hurts subscription-based businesses⁴¹⁸. While RBI relaxed the AFA in 2016 for small-ticket transactions up to INR two thousand⁴¹⁹, it is still unclear whether the AFA requirement has been completely done away with for such transactions, or if it has simply become the domain of card network providers. In order to promote subscription-based businesses, RBI must consider relaxing the AFA requirement for CNP transactions where a cardholder has set up a standing instruction with a merchant. The cardholder should be asked to undertake an AFA only once: at the time of setting up the standing instruction, post which the merchant could inform the cardholder before each impending payment with an option to opt out of making such payment. Therefore, the user must not be required to conduct AFA to approve each successive payment transaction after setting up the standing instruction.

⁴¹³ Para 6.5, Reserve Bank of India, Regulatory Sandbox Framework, dated 18 April 2019, available at <https://rbi.org.in/scripts/PublicationReportDetails.aspx?UrlPage=&ID=920>.

⁴¹⁴ Department of industrial policy and promotion, notification no. G.S.R. 364(E): 'start-up' is an entity shall be considered as a Start-up: (i) Upto a period of seven years from the date of its incorporation/registration (ii) Turnover of the entity for any of the financial years since incorporation /registration has not exceeded Rs.25 crore (iii) Entity is working towards innovation, development or improvement of products or processes or services.'

⁴¹⁵ Para 6.2, Reserve Bank of India, Regulatory Sandbox Framework, available at <https://rbi.org.in/scripts/PublicationReportDetails.aspx?UrlPage=&ID=920>.

⁴¹⁶ Para 6.9, Reserve Bank of India, Regulatory Sandbox Framework, available at <https://rbi.org.in/scripts/PublicationReportDetails.aspx?UrlPage=&ID=920>.

⁴¹⁷ Para 2, Reserve Bank of India, notification - Credit/Debit Card transactions-Security Issues and Risk mitigation measures, dated 18 February 2009, available at <https://www.rbi.org.in/scripts/NotificationUser.aspx?Id=4844&Mode=0>.

⁴¹⁸ R. Ayyar and R. Chitra, Two-factor authentication hurting subscription business, dated 22 March 2018, available at <https://timesofindia.indiatimes.com/business/india-business/two-factor-authentication-hurting-subscription-business/articleshow/63404794.cms>.

⁴¹⁹ Para 3, Reserve Bank of India, Notification – Card Not Present transactions – Relaxation in Additional Factor of Authentication for payments upto ₹ 2000/- for card network provided authentication solutions, dated 06 December 2016, available at <https://www.rbi.org.in/Scripts/NotificationUser.aspx?Id=10766&Mode=0>.

5. Simplify KYC norms for PPIs

PPIs are required to undertake the same level of KYC as banks. Semi-closed PPIs with credit limit up to INR ten thousand require the holder to have completed KYC (as contemplated under the Master KYC Directions) within a period of eighteen months from the date of issue of PPI⁴²⁰. Semi-closed PPIs with credit limit upto INR one lakh require full KYC at the time of issuance⁴²¹. This does not make a PPI an attractive digital payment option for small value transactions, creates friction, and has limited usage. Further, specifically where funds to a PPI are loaded through a KYC verified account i.e. debit to a bank account, credit and debit cards, the need for a dual KYC at the time of issuance of the semi-closed PPI seems unnecessary. The additional cost of undertaking a full KYC for PPIs deters payment solution provider from promoting PPIs over other payment mechanisms. The RBI must allow simpler and digital KYC processes to incentivise PPI issuers to promote PPI as a viable payment option. It must also reduce the level of KYC required to issue semi-closed PPIs. Simplifying KYC norms will also drive interoperability between PPIs.

6. Adopt global standards for security by design

Each payment system is exposed to various risks like credit, liquidity, legal, operational and settlement risks⁴²². In India, Cosmos Bank was faced with a cyberattack, resulting in nearly INR 1,00,00,000 (Rupees one crore) being siphoned off. The security breach in ATMs in 2016 compromised debit cards details of the consumers and allowed fraudsters to access confidential debit card data from ATM networks. The RBI investigated the incident which allowed the miscreants to steal personal information and misuse the data on the card for fraudulent transactions⁴²³. The systemically important payment systems should incorporate security-by-design principles that adhere to global standards for information and network-security protocols⁴²⁴. Advanced cyber-security jurisdictions such as Singapore⁴²⁵ and the United Kingdom⁴²⁶, in their respective cyber-security strategies, seek to promote security-by-design principles in the digital ecosystems. TRAI has also endorsed standardisation against security-by-design benchmarks⁴²⁷. In addition, the current security standards in India lack device-level cyber-security standards and follows outdated information-security benchmarks. As digital payments are most accessed with the use of mobile devices, the devices should adopt integrated security mechanisms against layered defences⁴²⁸.

⁴²⁰ Para 9.1(i), Reserve Bank of India, the Master Direction on Issuance and Operation of Prepaid Payment Instruments, dated October 11 2017, available at https://rbi.org.in/ScriptS/BS_ViewMasDirections.aspx?id=11142.

⁴²¹ Para 9.1(ii), Reserve Bank of India, the Master Direction on Issuance and Operation of Prepaid Payment Instruments, dated October 11 2017, available at https://rbi.org.in/ScriptS/BS_ViewMasDirections.aspx?id=11142.

⁴²² Page 88, ministry of finance, Watal Committee Report, dated 09 December 2016, available at http://finance.du.ac.in/du-finance/uploads/pdf/Reports/watal_report271216.pdf.

⁴²³ Reserve Bank of India Press Release, ATM/Debit Card Data Breach, dated 24 October 2016, available at https://rbi.org.in/scripts/BS_PressReleaseDisplay.aspx?prid=38392.

⁴²⁴ Page 22, Observer Research Foundation and Koan Advisory Group, Towards a Cyber-Security Roadmap for Digital Payments Best Practices and Recommendations, dated April 2019, available at https://www.orfonline.org/wp-content/uploads/2019/04/ORF_Report_Roadmap_Digital_Payments.pdf.

⁴²⁵ Page 12, Singapore Cyber security Strategy, dated March 2016, available at <https://www.csa.gov.sg/~media/csa/documents/publications/singaporecybersecuritystrategy.pdf?la=en>.

⁴²⁶ Page 33, United Kingdom Government, National cyber security strategy 2016-2021, available at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/567242/national_cyber_security_strategy_2016.pdf.

⁴²⁷ Page 40, Telecom Regulatory Authority of India, Recommendations on Spectrum, Roaming and QoS related requirements in Machine-to-Machine (M2M) Communications, dated 15 September 2017, available at http://trafai.gov.in/sites/default/files/Recommendations_M2M_05092017.pdf.

⁴²⁸ Page 24, Medici, India Fintech Report 2019, dated March 2019, available at https://mediciinnercircle.com/wp-content/uploads/2019/03/FintegrateReport_ExecutiveSummary_Final.pdf.

7. Incentivise digital payments

India's dependence on cash is acute⁴²⁹, with the total cash flow in the market estimated to be around 12 per cent of our GDP, which is amongst the highest in developing countries⁴³⁰. In order to address this, the government must encourage the adoption of digital payments while also dis-incentivising cash transactions. Introducing tangible benefits such as income tax incentives based on digital transactions for individuals, and Goods and Services Tax credits for merchants based on the volume of digital payments accepted, surcharge removal and subsidies on merchant discount rates on government payments like taxes, tolls and utility bills could help a large chunk of payments go digital⁴³¹. Allowing non-bank PPI issuers to earn interest on the entire balance funds lying in their escrow account⁴³² and removing the restriction that interest can only be earned after one year from the issuance of the PPI license⁴³³ will incentivise the promotion of PPI⁴³⁴. Cash transactions could be dis-incentivised by imposing nominal charges after a certain limit⁴³⁵, to encourage consumers to shift towards digital payments. Similarly, quarterly or yearly limits on cash transactions could also be introduced. The government may also consider gradually reducing the threshold for quoting the PAN for cash transactions in banking from INR 50,000 and for similarly for merchant/other transactions where the current threshold is INR 2,00,000. Allowing PPI holders to earn interest on funds lying in their PPI accounts⁴³⁶ will also encourage the shift away from cash transactions⁴³⁷.

8. Better customer protection frameworks

Creating and protecting consumer trust is a key issue in provision of payment service, and the absence of strong laws protecting consumers is a problem. Consumers must be effectively informed about terms and conditions of digital service, the risks associated with a service, and liability in case of unauthorised access, among other things. To empower consumers, the payments regulator must take a consumer-centric approach when developing and expanding the Indian digital payments market. Consumer protection is too important an issue to be left to the discretion of any regulatory agency. Instead, the broad principles for consumer empowerment need to be hardwired into statutory laws with clear accountability to enable a regulatory shift towards consumer-centric approach. A large number of people are still illiterate in India and can be victim of fraud or other malpractices while using digital payment options. Many street vendors and shopkeepers still struggle to adopt swipe machines and other digital payment modes. There is a need to promote ease of adoption by including multi-lingual financial literacy and a robust grievance redressal machinery to effectively handle inter-regional disparities and offer online dispute resolutions⁴³⁸.

⁴²⁹ Page 167, K. Joshi, Cashless Transaction Challenges and Remedies, International Journal of Creative Research Thoughts (IJCRT), available at <http://www.ijcrt.org/papers/IJCRTIETS028.pdf>.

⁴³⁰ Page 29, ministry of finance, Watal Committee Report, dated 09 December 2016, available at http://finance.du.ac.in/du-finance/uploads/pdf/Reports/watal_report271216.pdf.

⁴³¹ TR Ramachandran, Introduce incentives to widen digital payments in India, available at <https://www.moneycontrol.com/news/business/personal-finance/introduce-incentives-to-widen-digital-payments-in-india-3626401.html>.

⁴³² Para 12.4, Reserve Bank of India, the Master Direction on Issuance and Operation of Prepaid Payment Instruments, dated 11 October 2017, available at https://rbi.org.in/ScriptS/BS_ViewMasDirections.aspx?id=11142. It allows non-bank prepaid payment instrument issuers to earn interest only on an amount calculated as the 'core portion'.

⁴³³ Para 12.4(c), Reserve Bank of India, the Master Direction on Issuance and Operation of Prepaid Payment Instruments, dated 11 October 2017 available at https://rbi.org.in/ScriptS/BS_ViewMasDirections.aspx?id=11142. It provides that the facility to earn interest on the 'core portion' is available only to "...entities who have been in business for at least one year (26 fortnights) and whose accounts have been duly audited for the full accounting year."

⁴³⁴ The minimal transaction fees earned by PPI issuers are an inadequate incentive for promotion of PPI as a payment instrument. An additional interest earning is essential for PPI issuers to promote and invest in the PPI business.

⁴³⁵ Page 130, ministry of finance, Watal Committee Report, dated 09 December 2016, available at http://finance.du.ac.in/du-finance/uploads/pdf/Reports/watal_report271216.pdf.

⁴³⁶ Para 7.4, Reserve Bank of India, the Master Direction on Issuance and Operation of Prepaid Payment Instruments, dated October 11 2017 available at https://rbi.org.in/ScriptS/BS_ViewMasDirections.aspx?id=11142.

⁴³⁷ With rapid innovation in the digital payment industry and the introduction several frictionless digital payment platforms, 'ease of use' may no longer be an adequate incentive for use of PPIs.

⁴³⁸ Reserve Bank of India, Opportunities and Challenges of FinTech, Keynote Address by Shri Shaktikanta Das, dated 25 March 2019, available at https://m.rbi.org.in/ScriptS/BS_SpeechesView.aspx?id=1071.

9. Create an independent supervisory board for regulating payment systems

The establishment of a PRB could create dual and overlapping regulatory oversight of various financial products and services. There is a need for transparency in how the proposed independent board will function. While there may be a need to create a PRB to foster competition and consumer protection, and to create systemic stability and resilience in the payments sector. In order to avoid overlapping regulatory oversight, RBI must nominate a certain percentage of the board members to the PRB. Further, the PRB's consultation with RBI must be mandatory before any new framework governing financial products and services is issued. These steps may ensure better synchronisation between RBI and PRB in the decision-making process.

10. Promote interoperability between digital payments' interfaces

Both the introduction of UPI and the RBI's 'Prepaid Payment Instruments (PPIs) – Guidelines for Interoperability' ("**RBI Interoperability Guidelines**")⁴³⁹ have contributed immensely to promoting interoperability between digital payments' interfaces. We believe that the government should give impetus to the implementation of the RBI Interoperability Guidelines to further enhance digital payment interoperability in the country. Additionally, generating awareness around the feature of interoperability between myriad digital payments' systems will also contribute to the creating a cashless economy.

11. Reform the NPCI

The role and structure of the NPCI should be revisited. The NPCI owns and operates several retail payment and settlement systems in India, including RuPay and the Bharat Interface for Money ("**BHIM**") which is a UPI application. This puts it in competition with other private technology payment players in India. At the same time, the NPCI is also the rule making body for UPI in India, which allows it to regulate all UPI applications in the country. This is a conflict of interest, which should be addressed as soon as possible. Moreover, concerns have been voiced around the neutrality of the NPCI⁴⁴⁰. For instance, in the 2018-19 budget, INR 595 crores were earmarked for the digital payments sector, of which the NPCI allocated INR 495 crores to BHIM⁴⁴¹, instead of splitting it equally across all UPI players. In similar vein, since a majority stake of the NPCI is owned by public sector banks⁴⁴², private financial technology companies may not be adequately represented. These issues may be addressed by separating the regulatory and operational functions of the NPCI or by creating an NPCI like institution to take over the NPCI's regulatory functions. Further, the government may explore regulatory checks on NPCI or introducing measures to enhance the transparency in the workings of the NPCI to address any concerns around NPCI's neutrality.

12. Enhance industry participation to realise RBI's vision on digital payments

The RBI released the 'Payment and Settlement Systems in India: Vision – 2019-2021'⁴⁴³ document ("**RBI Vision Document**") on 15 May 2019 to enhance the penetration of digital payments in India⁴⁴⁴. We believe the government should increase industry participation to create a roadmap with clearly-defined, time-bound goals to ensure that the objectives of the RBI Vision Document are met on the ground.

⁴³⁹ Reserve Bank of India, Prepaid Payment Instruments (PPIs) – Guidelines for Interoperability, dated 16 October 2018, available at <https://rbi.org.in/Scripts/NotificationUser.aspx?Id=11393&Mode=0>.

⁴⁴⁰ S. Sircar, Should NPCI be Under RTI? Central Information Commission to Decide, dated 02 November 2018, available at <https://www.thequint.com/news/india/npci-to-be-under-rti-cic-to-decide>.

⁴⁴¹ S. Sircar, Should NPCI be Under RTI? Central Information Commission to Decide, dated 02 November 2018, available at <https://www.thequint.com/news/india/npci-to-be-under-rti-cic-to-decide>.

⁴⁴² National Payments Corporation of India, About Us, available at <https://www.npci.org.in/about-us-background>.

⁴⁴³ Reserve Bank of India, Payment and Settlement Systems in India: Vision – 2019-2021, dated 15 May 2019, available at <https://www.rbi.org.in/Scripts/PublicationVisionDocuments.aspx?Id=921>.

⁴⁴⁴ Para 4, Reserve Bank of India, Payment and Settlement Systems in India: Vision – 2019-2021, dated 15 May 2019, available at <https://www.rbi.org.in/Scripts/PublicationVisionDocuments.aspx?Id=921>.

PLATFORM REGULATION: INTERMEDIARY LIABILITY

A. Context

Online platforms including e-commerce marketplaces, payment companies, video platforms, messaging platforms, blogs and social media platforms, amongst others, add substantial value to the economy by creating globalised marketplaces, offering new modes of distribution of products and services, lowering transaction costs, and fostering competition⁴⁴⁵. These platforms do not create their own content but only act as intermediaries for third parties. In India, these intermediaries are not held liable for any illegal act or content on their platform provided they observe certain due diligences. This protection is called 'safe harbour' protection. Safe harbours need to be protected and strengthened because they bolster the digital economy, enhance internet penetration, increase the competitiveness of companies, and promote innovation.

In India, internet intermediaries are governed by the Information Technology Act, 2000 ("IT Act")⁴⁴⁶ and the rules framed under it. Key among these rules are the Information Technology (Intermediary Guidelines) Rules, 2011 ("Intermediary Rules")⁴⁴⁷. The Supreme Court in *Shreya Singhal v. Union of India* ("Shreya Singhal Case")⁴⁴⁸ clarified the contours of this legal framework.

In 2018, the government released the Information Technology [Intermediary Guidelines (Amendment) Rules], 2018 ("Draft Intermediary Guidelines")⁴⁴⁹ which propose to increase due diligence standards. The Telecom Regulatory Authority of India is deliberating recommendations⁴⁵⁰ for regulating over-the-top ("OTT") platforms, who qualify as intermediaries under current law.

B. Current state of law and policy

An intermediary is any entity that receives, stores or transmits information on behalf of third parties⁴⁵¹. Safe harbour protection is extended to intermediaries on the basis of the principle that they are passive transmitters of information and have little to no control over the same. To avail safe harbour protection, intermediaries must inter alia publish the rules and regulations governing the use of their platform by users⁴⁵² and explicitly prohibit the use of their platforms to publish or transmit certain kinds of data⁴⁵³.

Safe harbour protection is extended to intermediaries on the basis of the principle that they are passive transmitters of information and have little to no control over the same.

⁴⁴⁵ G. M. Giaglis, S. Klein and R. M. O'Keefe, The Role of Intermediaries in Electronic Marketplaces: Assessing Alternative Hypotheses for the Future, available at <https://pdfs.semanticscholar.org/89aa/3e20911bfcd0c6ee4060f75ab79d6b4172b1.pdf>; Pages 4 and 6, World Bank, Information and Communications for Development 2006: Global Trends and Policies, , available at <http://documents.worldbank.org/curated/en/876661468154168686/pdf/359240PAPER0In101OFFICIAL0USE0ONLY1.pdf>.

⁴⁴⁶ The Information Technology Act, 2000. Section 79, Information Technology Act, 2000 lays down the requirements for intermediaries to avoid liability.

⁴⁴⁷ The Information Technology (Intermediary Guidelines) Rules, 2011.

⁴⁴⁸ *Shreya Singhal v. Union of India*, Writ Petition (Criminal) No. 167 of 2012.

⁴⁴⁹ Ministry of electronics and information technology, the Information Technology [Intermediary Guidelines (Amendment) Rules] 2018, available at https://www.meity.gov.in/writereaddata/files/Draft_Intermediary_Amendment_24122018.pdf.

⁴⁵⁰ Press Trust of India, Trai to decide on rules for Internet calling, messaging firms soon, available at <https://www.livemint.com/industry/telecom/trai-to-decide-on-rules-for-internet-calling-messaging-firms-soon-1551197586078.html>.

⁴⁵¹ Section 2(w), the Information Technology Act, 2000.

⁴⁵² Rule 3(1), the Information Technology (Intermediary Guidelines) Rules, 2011.

⁴⁵³ Rule 3(2), the Information Technology (Intermediary Guidelines) Rules, 2011.

They should also not “initiate the transmission, select the receiver of transmission, and select or modify the information”⁴⁵⁴ on their platforms⁴⁵⁵ and must remove certain kinds of content from their platforms upon being notified of the same⁴⁵⁶, amongst other due diligences⁴⁵⁷. In the Shreya Singhal Case, the Supreme Court held that an intermediary was to take down content only upon receiving “actual knowledge from a court order or on being notified by the appropriate government or its agency that unlawful acts relating to Article 19(2) are going to be committed”⁴⁵⁸ (“**actual knowledge**”). However, in a later judgment the Delhi High Court held that in case of copyright infringement, a judicial or administrative order was not necessary⁴⁵⁹.

In the Shreya Singhal Case, the Supreme Court held that an intermediary was to take down content only upon receiving “actual knowledge from a court order or on being notified by the appropriate government or its agency that unlawful acts relating to Article 19(2) are going to be committed” (“**actual knowledge**”).

Further, the criteria for determining when an intermediary is a passive transmitter of information and amenable to safe harbour protection as opposed to when an intermediary is an active transmitter of information and not amenable to safe harbour protection is increasingly becoming blurred⁴⁶⁰.

The Draft Intermediary Guidelines, released last year, propose setting up a local Indian company for certain intermediaries⁴⁶¹, providing assistance to government agencies⁴⁶², removing certain content from their platforms⁴⁶³, deploying automated tools to proactively filter content⁴⁶⁴, and enabling tracing of senders of certain content⁴⁶⁵, amongst others⁴⁶⁶.

Not only intermediary liability, but the regulation of content on online platforms is in itself also a contentious issue. Last year in *Justice for Rights Foundation v. Union of India* (“**JRF Case**”)⁴⁶⁷, the petitioner requested the Delhi High Court to formulate guidelines for the regulation of online content. However, the Delhi High Court refused to do so and left the regulation of online content to the IT Act and the rules framed under it⁴⁶⁸. At the same time, we have seen the evolution of co-regulation and self-regulation, with several OTT players such as Netflix, Hotstar, Viacom, ALTBalaji, amongst others coming together and subscribing to a voluntary online code for online content (“**Online Content Code**”)⁴⁶⁹.

⁴⁵⁴ Rule 3(3), the Information Technology (Intermediary Guidelines) Rules, 2011.

⁴⁵⁵ Rule 3(3), the Information Technology (Intermediary Guidelines) Rules, 2011.

⁴⁵⁶ Rule 3(4), the Information Technology (Intermediary Guidelines) Rules, 2011.

⁴⁵⁷ Rules 3(5) to 3(11), the Information Technology (Intermediary Guidelines) Rules, 2011.

⁴⁵⁸ Para 119, *Shreya Singhal v. Union of India*, Writ Petition (Criminal) No. 167 of 2012. Therefore, the phrase ‘actual knowledge’ in Rule 3(4) was interpreted to mean only knowledge through a court or administrative order.

⁴⁵⁹ Para 50, *Myspace Inc. v. Super Cassettes Industries Ltd.*, MANU/DE/3411/2016.

⁴⁶⁰ *Christian Louboutin SAS vs. Nakul Bajaj and Ors.*, MANU/DE/4019/2018.

⁴⁶¹ Rule 3(7), ministry of electronics and information technology, the Information Technology [Intermediary Guidelines (Amendment) Rules] 2018, available at https://www.meity.gov.in/writereaddata/files/Draft_Intermediary_Amendment_24122018.pdf.

⁴⁶² Rule 3(5), ministry of electronics and information technology, the Information Technology [Intermediary Guidelines (Amendment) Rules] 2018, available at https://www.meity.gov.in/writereaddata/files/Draft_Intermediary_Amendment_24122018.pdf.

⁴⁶³ Rule 3(8), ministry of electronics and information technology, the Information Technology [Intermediary Guidelines (Amendment) Rules] 2018, available at https://www.meity.gov.in/writereaddata/files/Draft_Intermediary_Amendment_24122018.pdf.

⁴⁶⁴ Rule 3(9), ministry of electronics and information technology, the Information Technology [Intermediary Guidelines (Amendment) Rules] 2018, available at https://www.meity.gov.in/writereaddata/files/Draft_Intermediary_Amendment_24122018.pdf.

⁴⁶⁵ Rule 3(5), ministry of electronics and information technology, the Information Technology [Intermediary Guidelines (Amendment) Rules] 2018, available at https://www.meity.gov.in/writereaddata/files/Draft_Intermediary_Amendment_24122018.pdf.

⁴⁶⁶ Rule 3(8), ministry of electronics and information technology, the Information Technology [Intermediary Guidelines (Amendment) Rules] 2018, available at https://www.meity.gov.in/writereaddata/files/Draft_Intermediary_Amendment_24122018.pdf.

⁴⁶⁷ *Justice for Rights Foundation v. Union of India*, W.P.(C) 11164/2018, Delhi High Court.

⁴⁶⁸ Para 6, *Justice for Rights Foundation v. Union of India*, order dated 08 February 2019, W.P.(C) 11164/2018, Delhi High Court.

⁴⁶⁹ The Online Content Code was formulated in collaboration with the Internet and Mobile Association of India and prohibits certain kinds of content, provides guidelines on content classification, and suggests the appointment of a person/team/department for grievance redressal. The text of the same is available at <https://www.medianama.com/wp-content/uploads/Consolidated-Draft-14012019.pdf>.

C. RECOMMENDATIONS

1. Preserve safe harbour protection

Strong safe harbour provisions promote innovation and entrepreneurship as seen in the US⁴⁷⁰, while diluting safe harbour provisions detrimentally impacts end user experience and range of choices. Safe harbours enable the freedom of expression which in turn fuels creativity⁴⁷¹ and innovation⁴⁷². Weak safe harbour protection will discourage fresh investment⁴⁷³ as well, which will affect the government's efforts to create a vibrant start-up culture. In order to achieve the vision of the 'Digital India' programme, India must preserve its safe harbour protections. Therefore, the existing safe harbour protection under Section 79 of the IT Act must be strengthened. Given the number of sectors that different intermediaries operate in, it must be clarified that sector-specific laws and regulators cannot be involved in determining questions of intermediary liability, as such questions must be tackled within the contours of the IT Act. Additionally, the Draft Intermediary Guidelines should not be implemented in their present form as they impose a number of onerous obligations on intermediaries. Additionally, they also contravene the judgment in *Shreya Singhal* by imposing proactive monitoring and takedown requirements⁴⁷⁴, amongst other onerous conditions.

2. Do not introduce pro-active content monitoring requirements

The Draft Intermediary Guidelines⁴⁷⁵ require intermediaries to pre-screen content through automated means⁴⁷⁶. This deviates from the principle that intermediaries should be passive transmitters of information, and may lead to a loss of safe harbour protection. To prevent this from happening, companies may begin over-complying⁴⁷⁷ and censor legal content as well. It also goes against the *Shreya Singhal* Case which mandates a judicial or administrative order to take content down. Given the volume of information to be filtered, many companies may begin to deploy automated tools. These are also error-prone⁴⁷⁸ and have seen limited success⁴⁷⁹. Sub-standard tools may censor even legal content. All this is likely to have a chilling effect on free speech and expression which is a constitutionally protected right. Therefore, the Draft Intermediary Guidelines must be revisited.

⁴⁷⁰ A. Chander, 'Internet Intermediaries as Platforms for Expression and Innovation', Global Commission on Internet Governance: "Imagine the boardroom in a Silicon Valley venture capital firm, circa 2005. A start-up less than a year old.... Now that start-up...needs an infusion of cash to survive and grow...If that start-up can be accused of abetting copyright infringement on a massive scale, or must police its content like a traditional publishing house, lest it face damages claims or an injunction, the firm's US\$100 million investment might go to plaintiffs' lawyers in damages and fees. A court injunction might stop the site from continuing without extensive human monitoring, which could not be justified by potential revenue. Because of the insulation brought by US law reforms in the 1990s, American start-ups did not fear such a mortal legal blow. The legal privileges granted to Internet enterprises in the United States helped start-ups bridge the so-called "valley of death," the stage between creative idea and successful commercialization, in which most start-up enterprises founder." See <https://www.cigionline.org/sites/default/files/documents/GCIG%20no.42.pdf>.

⁴⁷¹ Report of the Special Rapporteur in the field of cultural rights: Farida Shaheed, The right to freedom of artistic expression and creativity, dated 14 March 2013, available at http://freemuse.org/wp-content/uploads/2013/04/A-HRC-23-34_en.pdf; Centre for Democracy and Technology, *Shielding the Messengers: Protecting Platforms for Expression and Innovation*, dated December 2012, available at <https://www.cdt.org/files/pdfs/CDT-Intermediary-Liability-2012.pdf>.

⁴⁷² J. Brogden, Innovation statement: safe harbour law embraces risk of failure, available at <https://www.afr.com/opinion/innovation-statement-safe-harbour-law-embraces-risk-of-failure-20151207-glhjrk>; Centre for Democracy and Technology, *Shielding the Messengers: Protecting Platforms for Expression and Innovation*, dated December 2012, available at <https://www.cdt.org/files/pdfs/CDT-Intermediary-Liability-2012.pdf>.

⁴⁷³ Centre for Democracy and Technology, *Shielding the Messengers: Protecting Platforms for Expression and Innovation*, dated December 2012, available at <https://www.cdt.org/files/pdfs/CDT-Intermediary-Liability-2012.pdf>.

⁴⁷⁴ Rule 3(8), ministry of electronics and information technology, the Information Technology [Intermediary Guidelines (Amendment) Rules] 2018, available at https://www.meity.gov.in/writereaddata/files/Draft_Intermediary_Amendment_24122018.pdf; Paras 3.14 and 3.18, department for promotion of industry and internal trade, the Draft National E-commerce Policy, 2019, available at https://dipp.gov.in/sites/default/files/DraftNational_e-commerce_Policy_23February2019.pdf.

⁴⁷⁵ Para 3.18, department for promotion of industry and internal trade, the Draft National E-commerce Policy, 2019, available at https://dipp.gov.in/sites/default/files/DraftNational_e-commerce_Policy_23February2019.pdf.

⁴⁷⁶ Rule 3(9), ministry of electronics and information technology, the Information Technology [Intermediary Guidelines (Amendment) Rules] 2018, available at https://www.meity.gov.in/writereaddata/files/Draft_Intermediary_Amendment_24122018.pdf.

⁴⁷⁷ N. Pahwa, #NAMApolicy on Safe Harbor: Should different sizes or categories of intermediaries be regulated differently?, available at <https://www.medianama.com/2019/02/223-regulation-of-intermediaries-nama/?fbclid=IwAR1IUx2a20Gc2cGby04IQaLiNjHrBiG7B5H3eTxx22a2gBQUPf6z0tY0d7Q>.

⁴⁷⁸ J. Malcolm, Users Around the World Reject Europe's Upload Filtering Proposal, available at <https://www.eff.org/deeplinks/2016/11/users-around-world-reject-europes-upload-filtering-proposal>.

⁴⁷⁹ In *Sabu Mathew George v. Union of India*, (2017) 7 SCC 657, it was submitted by the respondent intermediaries that content which violated the PCPNDT Act could be removed only upon being brought to their notice. Even such limited blocking has not seen much success; Legally India, Roundup of *Sabu Mathew George vs. Union of India: Intermediary liability and the 'doctrine of auto-block'*, available at <https://www.legallyindia.com/views/entry/roundup-of-sabu-mathew-george-vs-union-of-india-intermediary-liability-and-the-doctrine-of-auto-block>.

3. Do not mandate intermediaries to set up registered offices in India

The Draft Intermediary Guidelines require certain intermediaries to have a registered office in India⁴⁸⁰. This will increase operational costs⁴⁸¹. Certain companies may choose to not comply with this requirement and stop offering services in India. This will reduce the quality of services available to Indian citizens who will lose out on innovative online products and services. Vietnam, which has a similar requirement for the local presence of foreign-service providers⁴⁸², is already facing the commercial harms of this mandate⁴⁸³. We believe that these strategic decisions should be left to market forces. The government may incentivise companies to set up companies in India instead.

4. Do not regulate content on online platforms

As the Delhi High Court has recognised in the JRF case, the IT Act is sufficiently equipped to deal with the regulation of online content. Therefore, online platforms should be allowed to function within the bounds of the IT Act and its frameworks, as well as supplementary self-regulatory/co-regulatory models.

⁴⁸⁰ Rule 3(7), ministry of electronics and information technology, the Information Technology [Intermediary Guidelines (Amendment) Rules] 2018, available at https://www.meity.gov.in/writereaddata/files/Draft_Intermediary_Amendment_24122018.pdf.

⁴⁸¹ S. Katarki et al., The Draft Information Technology Intermediaries Guidelines (Amendment) Rules 2018, available at <http://www.mondaq.com/india/x/783268/IT+internet/The+Draft+Information+Technology+Intermediaries+Guidelines+Amendment+Rules+2018>.

⁴⁸² Article 26 (3), Law 24 on Cyber security [English Translation], Vietnam.

⁴⁸³ A survey conducted by the U.S. Chamber of Commerce titled "*Vietnam's Law on Cyber security: Bad on Cyber security, Bad for Vietnam*" observes that 61 per cent of companies surveyed for the study were deterred from investing in Vietnam due to the law. Further, 89 per cent of the respondents believed the requirement made Vietnam's digital economy less competitive. See U.S. Chamber of Commerce, *Vietnam's Law on Cyber security: Bad on Cyber security, Bad for Vietnam*, dated 25 October 2018, available at <https://www.uschamber.com/series/above-the-fold/vietnam-s-law-cyber-security-bad-cyber-security-bad-vietnam>.

EVOLVING ISSUES: COMPETITION AND DIGITAL TAXATION

A. Context

Information technology (“IT”) companies and digital businesses have grown to form a core part of the Indian economy today. From a contribution of a mere 1.2% to the national GDP in 1998⁴⁸⁴, the IT sector now contributes to 8% of the national GDP⁴⁸⁵. Per IT Minister Shri Ravi Shankar Prasad, this number is expected to increase manifold over the next five years, with revenues from the IT sector rising to as much as USD 350 billion⁴⁸⁶.

To further aid this growth, it is important to review and reform horizontal laws like the Competition Act, 2002 (“**Competition Act**”) and the Income Tax Act, 1961 (“**Income Tax Act**”) that cut across multiple sectors of the digital economy. The constitution of the Competition Law Review Committee (“**Review Committee**”) by the government in September 2018⁴⁸⁷ and the frequent government-driven reforms of tax laws⁴⁸⁸ are welcome steps in this direction.

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B. Current state of law and policy

Competition law

The Competition Commission of India (“**CCI**”) is a relatively new regulator, which took over the task of regulating the Indian market from the Monopolies and Restrictive Trade Practices (“**MRTP**”) Commission in May 2009⁴⁸⁹. Since the CCI has been in operation for a decade thus far, the jurisprudence on competition law is still at a nascent stage in India. During this time, the CCI has grappled with challenges like distinguishing between offline and online marketplaces⁴⁹⁰, determining the effects of deep discounts on healthy competition⁴⁹¹, and the abuse of dominance by technology companies⁴⁹².

⁴⁸⁴ NASSCOM, The IT BPM Sector in India, available at http://old.nasscom.in/sites/default/files/researchreports/SR14-Exec_Summary.pdf.

⁴⁸⁵ FE Bureau, India IT-BPM sector revenue expected to touch \$350 bn by 2025, says IT minister, available at <https://www.financialexpress.com/industry/india-it-bpm-sector-revenue-expected-to-touch-350-bn-by-2025-says-it-minister/1239509/>. This is the latest publicly available statistic as of 11 July 2018.

⁴⁸⁶ FE Bureau, India IT-BPM sector revenue expected to touch \$350 bn by 2025, says IT minister, available at <https://www.financialexpress.com/industry/india-it-bpm-sector-revenue-expected-to-touch-350-bn-by-2025-says-it-minister/1239509/>.

⁴⁸⁷ Ministry of corporate affairs, Government constitutes Competition Law Review Committee to review the Competition Act, dated 30 September 2018, available at <http://pib.nic.in/newsite/PrintRelease.aspx?relid=183835>.

⁴⁸⁸ ET Contributors, Digital Tax : Why India's approach to taxing Google, Facebook needs to align with the international approach, available at https://economictimes.indiatimes.com/small-biz/legal/digital-tax-why-indias-approach-to-taxing-google-facebook-needs-to-align-with-international-approach/articleshow/68329809.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst.

⁴⁸⁹ Competition Commission of India, Competition Commission of India - 4 Years of Enforcement of Competition Law, dated 27 May 2013, available at <http://pib.nic.in/newsite/mbErel.aspx?relid=96246>.

⁴⁹⁰ Mohit Mangalani v. Flipkart India Private Limited, Case No. 80 of 2014. See also, Confederation of Real Estate Brokers' Association of India v. Magicbricks.com and Ors, Case No. 23 of 2016.

⁴⁹¹ Meru Travel Solutions Private Limited v. Competition Commission of India, Case No. 25-28 of 2017.

⁴⁹² Vishal Gupta v Google LLC, Competition Commission of India, Case No. 06 & 46 of 2014.

The CCI undertook several market surveys⁴⁹³ to understand the nuances relating to technological developments and also constituted a 'Think Tank on Digital Markets' ("**Think Tank**") comprising of technologists, legal experts and economists to help the CCI reach well-informed decisions with regards to the digital economy⁴⁹⁴.

Digital taxation

At present, digital services are taxed on the basis of the physical presence of an entity within the taxing country⁴⁹⁵. In February 2016, then Finance Minister Shri. ArunJaitely proposed the introduction of an 'equalisation levy', that was meant to "tap tax on income accruing to foreign e-commerce companies from India"⁴⁹⁶. As per the Finance Bill, 2016, this levy is to be charged on the amount of consideration paid by a person resident in India/a non-resident having a permanent establishment in India to a non-resident for any "specified service"⁴⁹⁷. In May 2016, the Central Board of Direct Taxes ("**CBDT**") implemented this proposal by introducing an equalisation levy for taxing digital services like online advertising⁴⁹⁸.

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In 2018, the Income Tax Act was amended to widen the meaning of 'business connection', such that even entities with a significant economic presence ("**SEP**")⁴⁹⁹ in India, were considered to have a business connection within the country. With this amendment, all income that accrues or arises, whether directly or indirectly, through or from any SEP (i.e., a business connection) has become taxable in India, since such income is deemed to be income that accrues or arises in India⁵⁰⁰.

⁴⁹³ S. Moorthy, E-commerce, digital economy pose a challenge, available at <https://www.thehindubusinessline.com/news/e-commerce-digital-economy-pose-a-challenge/article25457084.ece>.

⁴⁹⁴ Para 14, Competition Commission of India, Antitrust Global Seminar Series, dated 08 February 2019, available at <https://www.cci.gov.in/sites/default/files/speeches/ABASpeech.pdf?download=1>.

⁴⁹⁵ Ashish Gupta, Why taxing the digital economy won't be easy for India, available at <https://www.fortuneindia.com/technology/why-taxing-the-digital-economy-wont-be-easy-for-india/100530>.

⁴⁹⁶ Union Budget 2016-17, Full text of ArunJaitely's speech, available at <https://www.livemint.com/Politics/ztYrQRnXj02kDAg9TGwdcJ/Union-Budget-201617-Full-text-of-finance-minister-Arun-Jai.html>.

⁴⁹⁷ Section 161, Finance Bill, 2016, available at <https://www.indiabudget.gov.in/budget2016-2017/ub2016-17/fb/bill.pdf>.

⁴⁹⁸ Ministry of finance, Levy of Tax on Digital Services, dated 06 May 2016, available at <http://pib.nic.in/newsite/mbErel.aspx?reid=145033>.

⁴⁹⁹ Explanation 2A to section 9, Income Tax Act, 1961: "Explanation 2A.—For the removal of doubts, it is hereby clarified that the significant economic presence of a non-resident in India shall constitute "business connection" in India and "significant economic presence" for this purpose, shall mean— (a) transaction in respect of any goods, services or property carried out by a non-resident in India including provision of download of data or software in India, if the aggregate of payments arising from such transaction or transactions during the previous year exceeds such amount as may be prescribed; or (b) systematic and continuous soliciting of business activities or engaging in interaction with such number of users as may be prescribed, in India through digital means."

⁵⁰⁰ Section 9(1), Income Tax Act, 1961.

In early 2019, the Draft National E-commerce Policy⁵⁰¹ discussed⁵⁰² the problems associated with imposing a permanent moratorium on custom duties on electronic transmissions⁵⁰³. Most recently, the CBDT constituted a committee to look into the manner of attributing profits to permanent establishments under the Income Tax Act, 1961⁵⁰⁴. On 18 April 2019, the committee released a proposal for amending the rules on profit attribution to a permanent establishment, inviting stakeholder comments on the same⁵⁰⁵. The government's decision on the way forward on this issue will have a significant impact on digital businesses operating in India.

The government's decision on the way forward on this issue will have a significant impact on digital businesses operating in India.

C. RECOMMENDATIONS

Competition law

1. Incentivise participation of experts in the Think Tank and invest in capacity building:

The success of the Think Tank approach is contingent on the presence of skilled experts in the Think Tank and the methodology of their research. The CCI should initiate a call for participants with technical expertise for the Think Tank for better results. Additionally, it can encourage internal capacity building in collaboration with industry stakeholders so that persons remain up to date with the developments on the technology landscape.

2. Increase transparency in internal processes

The process of selecting members for the Review Committee, the Think Tank as well as the market surveys were not made available to stakeholders for review. Further, the findings of these bodies have not been made publicly available. It is therefore recommended that the CCI should increase transparency in the way it structures these bodies/exercises and conducts its own functions. In addition, the CCI should ensure that stakeholder consultations on key issues take place.

3. Update the Competition Act

The Competition Act is still evolving to address the issue of the growing digital economy. The Act still pegs the definition of a 'market' to its geographical or product market, which may not be suited to the e-commerce marketplace where physical presence is not a pre-requisite for doing business. This outlook has impact edits decision in *Mohit Mangalani v Flipkart India Private Limited (2014)*⁵⁰⁶. The CCI instituted the Review Committee to propose amendments to the Act, yet no recommendations have been given yet. The Review Committee must be directed to submit its report at the earliest.

⁵⁰¹ Department for promotion of industry and internal trade, Draft National E-commerce Policy, dated 23 February 2019, available at https://dipp.gov.in/sites/default/files/DraftNational_e-commerce_Policy_23February2019.pdf.

⁵⁰² Pages 10 and 28, Draft National E-commerce Policy, dated 23 February 2019, available at https://dipp.gov.in/sites/default/files/DraftNational_e-commerce_Policy_23February2019.pdf.

⁵⁰³ World Trade Organisation, Electronic Commerce, available at https://www.wto.org/english/tratop_e/ecom_e/ecom_e.htm.

⁵⁰⁴ Central Board of Direct Taxes, Public consultation on the proposal for amendment of rules for profit attribution to permanent establishment-reg., dated 18 April 2019, available at <http://itatonline.org/info/wp-content/uploads/2019/04/CBDT-Report-Profit-Attribution-Permanent-Establishment.pdf>.

⁵⁰⁵ Ministry of finance, CBDT invites stakeholder comments on report pertaining to Profit Attribution to Permanent Establishment (PE) in India, dated 18 April 2019, available at <http://pib.nic.in/PressReleaselframePage.aspx?PRID=1570902>.

⁵⁰⁶ *Mohit Mangalani v Flipkart India Private Limited*, Case No. 80 of 2014.

4. Consider the introduction of settlement proceedings

The pace of decision making by the CCI is not up to speed with the rapid changes in the digital economy. By the time a final decision is pronounced, digital economy market conditions change drastically⁵⁰⁷. Settlements have become a widely accepted mode of dispute resolutions in many major economies of the world, including the US⁵⁰⁸ and the European Union⁵⁰⁹. They enable competition authorities to save resources which leads to the swifter resolution of cases⁵¹⁰. Further, since settlements entail a process of negotiation, competition authorities can create custom-made remedies suitable for the particular facts of each case⁵¹¹. Most importantly, settlements can enable a quicker restoration of effective competition in markets⁵¹². Given these myriad benefits, the government should seriously consider introducing settlement proceedings within the framework of the Competition Act.

Digital taxation

1. Apply new rules prospectively

The government must ensure that all new rules and other developments affecting taxation are applied prospectively. It should specifically be clarified that such instruments have no bearing on ongoing assessments or appellate proceedings.

2. Adopt a balanced approach to amending India's tax framework

Developments such as the introduction of the SEP principle, introduction of an equalisation levy and deliberations on the customs moratorium on electronic transmissions require in-depth and careful consideration by all stakeholders, as they replace settled international norms. International organisations such as the Organisation for Economic Cooperation and Development are yet to make their final recommendations on these issues. Any decision on this matter will have a ripple effect throughout the Indian economy. It is therefore important for the government to adopt a balanced approach to decision-making on issues such as digital taxation, as they impact global inter-connectedness, which brings many positive returns to the Indian GDP.

3. Honour existing Advance Pricing Agreements

Advance Pricing Agreements ("APA") have been signed and executed by the CBDT with several taxpayers. These APAs, particularly those related to marketing activities performed by Indian entities, have addressed the attribution risks for non-residents. It is unclear how the recommendations suggested by the CBDT would integrate with these signed and executed APAs. Therefore, an exception should be carved out for non-residents already covered by the APA program.

⁵⁰⁷ Para 28, J. D. Wright and D. H. Ginsburg, *The Costs and Benefits of Antitrust Consents*, available at [https://one.oecd.org/document/DAF/COMP/WD\(2016\)81/en/pdf](https://one.oecd.org/document/DAF/COMP/WD(2016)81/en/pdf).

⁵⁰⁸ M. E. DeBow, *An Analysis of Antitrust Consent Decrees*, Chicago Unbound (University of Chicago) 1987, available at <https://chicagounbound.uchicago.edu/cgi/viewcontent.cgi?article=1024&context=ucf>.

⁵⁰⁹ European Commission, Council Regulation No 1/2003: "Article 9. Commitments
1. Where the Commission intends to adopt a decision requiring that an infringement be brought to an end and the undertakings concerned offer commitments to meet the concerns expressed to them by the Commission in its preliminary assessment, the Commission may by decision make those commitments binding on the undertakings. Such a decision may be adopted for a specified period and shall conclude that there are no longer grounds for action by the Commission.
2. The Commission may, upon request or on its own initiative, reopen the proceedings:
(a) where there has been a material change in any of the facts on which the decision was based;
(b) where the undertakings concerned act contrary to their commitments; or
(c) where the decision was based on incomplete, incorrect or misleading information provided by the parties."

⁵¹⁰ Para 3, Directorate for Financial and Enterprise Affairs Competition Committee, Organisation for Economic Cooperation and Development Secretariat, *Executive Summary of the Roundtable on Commitment Decisions in Antitrust Cases held at the 125th meeting of the Competition Committee of the Organisation for Economic Cooperation and Development*, dated 19 December 2016, available at [https://one.oecd.org/document/DAF/COMP/M\(2016\)1/ANN5/FINAL/en/pdf](https://one.oecd.org/document/DAF/COMP/M(2016)1/ANN5/FINAL/en/pdf).

⁵¹¹ Para 3, Directorate for Financial and Enterprise Affairs Competition Committee, Organisation for Economic Cooperation and Development Secretariat, *Executive Summary of the Roundtable on Commitment Decisions in Antitrust Cases held at the 125th meeting of the Competition Committee of the Organisation for Economic Cooperation and Development*, dated 19 December 2016, available at [https://one.oecd.org/document/DAF/COMP/M\(2016\)1/ANN5/FINAL/en/pdf](https://one.oecd.org/document/DAF/COMP/M(2016)1/ANN5/FINAL/en/pdf).

⁵¹² Para 28, J. D. Wright and D. H. Ginsburg, *The Costs and Benefits of Antitrust Consents*, available at [https://one.oecd.org/document/DAF/COMP/WD\(2016\)81/en/pdf](https://one.oecd.org/document/DAF/COMP/WD(2016)81/en/pdf).

