Proceedings

India Internet Governance Forum 2024

Supported by

Meta, Zupee, NIXI, CDAC and BIF

IIGF
INDIA INTERNET GOVERNANCE FORUM

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Abbreviations

AI	Artificial Intelligence
AR-VR	Artificial Reality-Virtual Reality
AVSM	Ati Vishisht Seva Medal (Military Award)
AWS	Amazon Web Services
BIF	Broadband India Forum
BSA	Business Software Alliance
C-DAC	Centre for Development of Advanced Computing
C2PA	Coalition for Content Provenance and Authenticity
CCAOI	Cyber Cafe Association of India
CCG-NLUD	Centre for Communication Governance at National Law University, Delhi
CERAI	Centre for Responsible AI
CIBIL	Credit Information Bureau (India) Limited
CIS	Centre for Internet and Society
COE	Centre of Excellence
COP	Conference of the Parties
CSR	Corporate Social Responsibility
CSS	Centrally Sponsored Scheme
DEF	Digital Empowerment Foundation

DNS	Domain Name System
DOT	Department of Telecommunication
DPDP	Digital Personal Data Protection (Act)
DPGA	Digital Public Goods Alliance
DPGs	Digital Public Goods
DPI	Digital Public Infrastructure
DSA	Digital Services Act
EGF	E-Gaming Federation
EU	European Union
FACE	Fintech Association for Consumer Empowerment
FinTech	Financial Technology
G2G	Government-to-Government
GAC	Governmental Advisory Committee (ICANN)
GBV	Gender-Based Violence
GDC	Global Digital Compact
GDP	Gross Domestic Product
GenAI	Generative Artificial Intelligence
GPAI	Global Partnership on Artificial Intelligence
GPUs	Graphics Processing Unit
GSM	Global System for Mobile Communications (originally *Groupe Spécial Mobile*)
GSMA	GSM Association

gTLD	Generic Top-Level Domain
GWQ	Gross Wellness Quotient
IAB	Internet Architecture Board
ICANN	Internet Corporation for Assigned Names and Numbers
ICRIER	Indian Council for Research on International Economic Relations
ICT	Information Communications Technologies
IETF	Internet Engineering Task Force
IG	Internet Governance
IGF	Internet Governance Forum
IIGF	India Internet Governance Forum
IIT	Indian Institute of Technology
IoT	Internet of Things
IP	Internet Protocol
ISO	International Organization for Standardization
ISOC	Internet Society
ISR	Intelligence-Surveillance-Reconnaissance
IT	Information Technology
IT-ITES	Information Technology and IT Enabled Services
JS	Joint Secretary
KYC	Know Your Customer
LEAD	Leveraging Evidence for Access and Development

LLMs	Large Language Models
MeitY	Ministry of Electronics and Information Technology, Govt of India
MIB	Ministry of Information and Broadcasting, Govt of India
NASSCOM	National Association of Software and Service Companies
NIXI	National Internet Exchange of India
OECD	Organisation for Economic Co-operation and Development
P2P	Peer-to-Peer
PMWANI	Prime Minister's Wi-Fi Access Network Interface
POSCO	Protection of Children from Sexual Offences (Act)
PPP	Public Private Partnership
PwDs	Persons with Disabilities
QR	Quick Response (Code)
RBI	Reserve Bank of India
RFP	Request for Proposal
RGF	Responsible Gaming Framework
RIR	Regional Internet Registry
RITE	Responsible Innovation in Tech for Children
RMG	Real Money Gaming
ROI	Return on Investment
RPwD	Rights of Persons with Disabilities (Act)
SDGs	Sustainable Development Goals

SEBI	Securities and Exchange Board of India
SRO	Self-Regulatory Organization
STEM	Science, Technology, Engineering and Mathematics
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund (originally the United Nations International Children's Emergency Fund)
UPI	Unified Payments Interface
W3C	World-Wide Web Consortium
WCAG	Web Content Accessibility Guidelines
WHOIS	A query and response protocol used on the Internet to retrieve information about the registered owners of domain names, IP addresses, and other internet resources
WSIS	World Summit on the Information Society

Executive Summary

The India Internet Governance Forum (IIGF) 2024 brought together key stakeholders to discuss and shape the future of Internet Governance in India under the theme: “Innovating Internet Governance for India.” The event featured discussions on topics such as Internet Infrastructure, security, sustainability, AI, and digital inclusion, while underscoring the importance of multi-stakeholder collaboration.

The Inaugural Session had the participation of Shri. Jitin Prasada, Hon’ble Minister of State for Commerce & Industry & Electronics and Information Technology, Government of India, as well as Shri S. Krishnan and Shri Sushil Pal from Ministry of Electronics & Information Technology, Govt. of India, Mr. Chengetai Masango, Head of UN Secretariat for the IGF (online), Mr. Dilsher Singh Malhi, Founder & CEO, Zupee, Mr. Shivnath Thukral, Vice President, Public Policy, Meta India and Prof. Rekha Jain, Senior Visiting Professor, ICRIER, each of whom made informative opening remarks. These highlighted India’s achievements in digital transformation and the need to bridge digital divides, address cybersecurity, and adopt green technologies as well as the role of startups and emerging technologies like AI in driving India’s economic growth. Ms Amrita Choudhury gave a recap of the previous editions of the India IGF. Prof Rajat Moona proposed a vote of thanks.

IIGF 2024 hosted four main panels and twelve workshops.

Main Panel 1: “India AI Mission – Harnessing the Power of Artificial Intelligence for a Sustainable Future” provided an overview of IndiaAI’s seven pillars, including Compute Infrastructure and AI applications. The panel discussed collaborative efforts to make AI ethical, accessible, and inclusive. Main Panel 2: “Resilient Internet Infrastructure” examined the need for robust broadband networks and secure data centres and highlighted the power requirements for AI-driven systems and green energy solutions. Main Panel 3: “Role of Multistakeholder Community to Build a Digitally Empowered India” advocated for inclusivity in governance, emphasizing the involvement of all stakeholders and discussed the importance of India’s representation in global internet governance forums. Main Panel 4: “Building Green and Sustainable Internet” was about reducing carbon footprints in digital infrastructure and promoting renewable energy and green innovations to align technological growth with sustainability.

There were twelve community workshops organized by different stakeholders.

In Workshop 1: “Enabling AI for All, By All”, the discussion was about using AI to address societal challenges and empower marginalized communities. Panellists advocated for inclusive frameworks to ensure equity and access. In the second Workshop which was a Report Launch and Discussion on ICT for Empowering Accessibility/Inclusion: The Impact of Digital

Integration on the Lives of Persons with Disabilities (PwDs), ICT's role in improving the lives of persons with disabilities (PwDs) was explored and a recommendation was to integrate accessibility standards like IS 17802 in AI applications. In Workshop 3: “Regulating Digital Media: Navigating Content Governance in India”, panellists looked at how content regulation could be balanced with freedom of expression using AI moderators. They also called for frameworks to combat misinformation and harmful content. In the fourth workshop that was on “the Intersection of Competition Law and Artificial Intelligence”, the interplay between competition law and AI was analysed with focus on fair practices. There was also discussion on mitigating monopolistic risks in AI-driven markets. In Workshop 5: “The Evolution of Harm in the Digital Age: Blurring Lines Between Online and Offline Harms and Violence”, the rising challenges of online harms and violence was explored while collaborative solutions to address digital safety were highlighted. Workshop 6: “Enabling Open-Source AI Access for the Global South” advocated for open-source AI to promote innovation and inclusivity and called for affordable AI tailored to local contexts.

“Responsible AI Innovation” was the theme of Workshop 7 which stressed on ethical AI practices and mitigating biases in AI systems. Panellists also called for industry and government collaboration for responsible innovation. Workshop 8: “Trust and Safety in Online Gaming: : Navigating the Opportunities and Challenges of a Digital Playground” highlighted the importance of educating parents and caregivers about the harmful sides of gaming. It also discussed the fact that gaming was not a perceived threat and the need for having a safe and transparent reporting system. “Leveraging Digital Public Infrastructure for Digital Inclusion” was the topic of Workshop 9 which showcased platforms like UPI in enabling financial and social inclusion and the potential of replicating India’s digital public infrastructure globally. Workshop 10: “Open-Source AI – Powering India’s Ethical and Inclusive Digital Future” emphasized building localized AI models for India’s unique requirements and called for greater collaboration with stakeholders. Workshop 11,“AI Governance for India’s FinTech Sector”, addressed the importance of consumer protection in AI-powered financial technologies and explored regulatory frameworks for ethical fintech AI. Workshop 12: “India’s IoT Revolution – Secure, Smart, and Skill-Ready” highlighted the need for secure IoT systems and workforce preparedness and discussed leveraging IoT for innovation in critical sectors.

In the valedictory session, the discussions and outcomes from the event were summarized reiterating India’s vision for a sustainable, inclusive, and resilient Internet ecosystem along with feedback and inputs for future editions of the India IGF.

Key Takeaways

1. Governance

- Institutionalized Governance: Establish formal mechanisms for multistakeholder engagement to ensure equitable representation and effective decision-making.
- Inclusive Representation: Strengthen grassroots engagement to bring diverse voices into national and global Internet governance discussions.
- Public Interest Focus: Ensure digital policies prioritize transparency, equity, and inclusivity, aligning with foundational rights and democratic values.
- International Participation: Promote active participation in international standardization bodies to influence global policies and incorporate India-specific perspectives
- Regulations: Streamline regulations with reduced overlap among regulatory bodies

2. Internet Resilience and sustainability

- Internet Resilience Index: Develop stakeholder-driven Internet Resilience Index which can be drilled down from the top to the lower administrative level to measure and enhance Internet resilience.
- Data: Systematic measurement and data collection for defining and assessing a resilient Internet. Requirement to collect and institutionalize resilience data, such as recovery times for subsea cables and operational status of infrastructure.
- Data for AI: Government takes the lead in data management, getting all the data sets together that are unlocked, and find out other ways of making data available as well as curated in different languages and build reference architecture

- Design: Focus on creating, designing, maintaining, and restoring infrastructure to ensure quality of service is maintained including integration of infrastructure with community infrastructure. Address cultural challenges that hinder the translation of ideas and schemes/initiatives into meaningful connectivity. Inclusivity by design must be a core idea.

- Inclusion by design: Prioritize inclusion in the design phase of digital platforms to ensure sustainability and sensitivity. Designing for people with disabilities fosters broader sustainability and reduces the digital divide. Accessibility must be a priority in building an inclusive Internet

- Standards for internet resilience: Ensure proper standards and processes are in place for ensuring functionality and effectiveness of Internet infrastructure and restoration during breakdowns.

- Standards for IoT :Emphasise security by design, robust encryption, and compliance with emerging standards like ISO 27400. Measures may include the implementation of labeling schemes (e.g., security levels from L0 to L5) for consumer awareness and policies restricting procurement of devices with critical components from border-sharing countries.

- Sustainable practices: Ensure significant improvement in sustainable practices like green tech adoption and R&D investment. Emerging technologies such as IoT, AI, and lifecycle carbon accounting can optimize resource use and reduce the carbon footprint of digital systems.

- E-Waste Management: Use circular economy frameworks, digital product passports, and extended product life to address e-waste challenges.

3. Capacity Building

- Governance: Invest in academic partnerships, funding models, and training programs to enhance participation from youth, academia, and civil society in internet governance.

- AI: Develop skilling and research into foundational models tailored to India's unique requirements, build awareness and capacity-building efforts that are pivotal for sustainable AI growth. Support by improved research investment and compute power for AI.

- IoT: Ensure multi-disciplinary training covering IoT hardware, data analytics, security, and maintenance. Specialized courses and research initiatives to prepare youth for IoT-related roles, up-skilling for traditional trades like electricians and plumbers to handle IoT-enabled systems would be useful. Public education on risks associated with cheaper, uncertified devices, testing infrastructure to ensure quality and security of IoT products.

- Gaming: Parental education along with response and support services and networking of schools and colleges to mitigate harm from online gaming systems. Transparent and safe systems for reporting harm

DAY 1: 09 Dec 2024

1. Inaugural Session

1. Dr. Devesh Tyagi, CEO, NIXI (Chair, Coordination Committee, IIGF)

First of all, I thank all of you for being here. Respected Sri Krishnan, Secretary, MeitY, Sri Sushil Pal, JS, MeitY, Shri Sourabh Thukral, Vice President, Public Policy, Meta India, Prof Rekha Jain, Senior Visiting Professor, ICRIER, Sri Chengetai Masango, Head of UN Secretariat for the IGF, Ms. Amrita Choudhury, Director, CCAOI and other dignitaries who are present here. Today is a historic day for us in IIGF since we are here together to celebrate the fourth chapter of IIGF in our country. As you are aware that IIGF is a multi-stakeholder group in which there is diverse representation. This forum works for Internet governance in our country and this forum has, in the past, had many discussions which have been very fruitful in taking Internet governance in our country forward. As a part of IIGF, we had multi-stakeholder consultations which happen at different points in time during the particular sessions and whatever is the outcome of those discussions, is then presented to the Ministry of Electronics and IT for taking forward. We are representing our country in various forums and inputs which are gathered here are playing a critical part for making our presence felt at the global forums. I would say that at the India governance forum our collective task is to undertake the power and potential of a resilient Internet for all for our shared and sustainable common future. Our main purpose is to build a resilient and empowering Internet which means addressing the dark side of our digital reality.

When we talk of our India, there are 955 million Internet users at present but there are many who are still to be taken on the Internet. As they say, the next wave of Internet users will come from south eastern countries and there India will play a very critical role. We are approaching various stakeholders so that our Internet performs well and it reaches to the unreached and serves the underserved. And we are able to achieve this in a very significant manner. We are assembled here today to strengthen our Internet governance ecosystem through organising the fourth Internet governance forum, the IIGF 2024. This year's themes aptly reflect the sentiments of our multi-stakeholder community to think out of the box for a creative problem-solving attitude for which we have to innovate for Internet governance for India to discuss distinguished issues over a period of two days.

We are all well aware that India is a diverse country which has more 1.4 billion citizens, 1.2 billion mobile users and 900 million Internet users which definitely showcases the growth of our Internet culture. Digital e-governance and national security showcase our commitment for a developed India. To focus on core areas, we have selected thematic areas including empowering connections; assessing inclusion and rights; legal and regulatory frameworks and responsible

AI; and building green and sustainable Internet with trust and safety. Crucial to highlight is this year's theme which focuses on an innovative IG ecosystem in times when the Internet is boosting the world's most populous nation. The IIGF 2024 is not only an opportunity for us to come together but also create a forum to deliberate on issues that impact us.

With this background, I would first welcome Sri S. Krishnan, Secretary, MeitY, to be with us. He is a driving force and guidance force for us on this particular forum. I would like to welcome Sri Sushil Pal, JS, MeitY, who is leading the Internet governance division in MeitY and taking various initiatives which will definitely be making an impact on our global presence. I would welcome all other dignitaries who are present on the dais, and the people who have gathered and will be making their contribution felt during the course of the discussion. Thank you very much.

2. Ms. Amrita Choudhury, Director, CCAOI – Recap of IIGF 2021 – 2023

I would like to give you all a brief recap of what India IGF has been doing for the last three years. It is not extensive, but I thought I would just share a bit. I am presenting this on behalf of the Coordination Committee of India IGF who runs it.

What is India IGF about? It is a multi-stakeholder platform which brings together different stakeholders on an equal footing. We discuss issues on the norms of governance which impact social and economic development which is related to the Internet. It is an annual event which is organised by a multistakeholder coordination committee but all the work is done on a voluntary basis by the sub-committees; for example, we have the theme committee, reception committee, research committee and a team that manages these events: finance, sponsorships etc. A big thank you to all the volunteers.

The journey so far: the first year was an online event. The theme was Empower India through the Power of Internet where we had three sub-themes – this will be up on the website, so I will not go into details. The next year was a hybrid event where the theme was Leveraging Techade for Empowering Bharat with five sub-themes. The last year also was a hybrid event with the theme was Moving Forward Calibrating Bharat's Digital Agenda. If we look at the messages – while we have reports of all these events, some of the key messages I thought of highlighting are – being a country where we have a lot in stake because we are using "digital" like never before, we need to shape the Internet future through policies, regulations, standards, rights and responsibilities; we need active participation of Indians in the international fora where decisions are taken, especially standards. We need to strengthen and institutionalise the multi-stakeholder model of Internet governance for an open, free, secure, trusted and accountable Internet. We need meaningful access and that means initiatives need to be prioritised and that aspect we need to foster an environment of inclusivity through legislation, opportunities, skill and capacity

building, promote local language and the multilingual Internet; Prioritise cybersecurity in government organisations, industry and consumers through legislations, better cyber practices, skill development, cyber hygiene etc. and push for greater accountability of platforms, states and private players. In 2022, some of the key messages were: the Indian Internet should be Open, Safe, Trusted and Accountable; and Security must be fundamental in the design. We need to encourage secure technologies such as end-to-end encryption, as they play a crucial role in securing the Internet; information should be secure and trustworthy; Promote regulation that is technology-neutral and forward-looking; Adopt a principle-based national regulatory framework that is agile, nimble, and resilient to changes in technology and new business models; and Recognise non-traditional forms of exports through DPIs.

In 2023, some of the key messages were that to bridge the digital divide, not only do we need access, but also meaningful access: there is a need for meaningful content and affordable devices. We need to develop and promote new technologies that can be used to bridge the digital divide. Raising awareness of existing standards and tools for accessibility. Inclusivity by design has to be the cornerstone of all activities. The vision that India needs a trusted and safe Internet is critical for building a resilient cyberspace. There is a need for international cooperation and awareness programs, good cyber-hygiene and reporting practices along with skill development. Policies and programs that promote a culture of innovation and risk-taking need to be implemented to address India's developmental challenges and achieve sustainable development goals. We need to draft an India strategy on Internet governance with input and participation from all stakeholders; identify talent and create a talent pool for participation at international forums and discussion groups; Encourage participation in technical standard discussions at the international level; and consider organising an IETF in India.

These were a few messages from earlier events. Thank you all so much.

3. Mr. Dilsher Singh Malhi, Founder & CEO, Zupee – special address

Respected Secretary MeitY, Shri S. Krishnan ji, distinguished speakers and esteemed guests. It is an honour to be here to address this gathering of policy makers and thought leaders from across the globe.

As a brief introduction, I come from a town in Rajasthan, graduated from IIT Kanpur in Chemical Engineering and now I am running one of India’s fastest growing skill-based gaming startups named Zupee that employs more than 400 people, building a tech-led process where we host over 100 million users. I join you today to echo that tech and innovation are fuelling the digital powerhouse that is India. I am hopeful that it will continue to thrust our country towards its goal of a $5 trillion economy.

India has the world’s third largest start-up ecosystem; it is home to over 1,46,000 startups. As per the global innovation index, India has consistently improved its strength, jumping to the 40th

position in 2023 from 81st in 2015. This has happened mainly because of the endless possibilities that arise from a credible digital public infrastructure consisting of UPI and Adhaar and the penetration of mobile phones across the country. Now with the Bharat 6G mission, the semiconductor mission and the AI mission, startups are positioning India for an exponential economic growth.

Let me list three reasons why startups are going to be critical in this journey of economic growth. First, startups are adding value to society's experiences. Startups are already redefining how we are experiencing education, health care, travel and even entertainment. The opportunities for innovation in newer areas are endless. Startups will continue to respond to the evolving needs of the people and serve as painkillers and vitamins for good social health. Gamification of processes to solve real world problems is an exciting idea that we call vitamins. Perhaps we are just on the path of moving from painkillers towards more invigorating vitamins. And towards measuring prosperity not just by GDP but by GWQ, that is Gross wellness Quotient. At Zupee we are grateful to be contributing to this journey where gaming is fulfilling the society's deep need for competitive engagement and entertainment.

Secondly, tech-driven innovation by startups has the potential to transform some other sectors as well. Such as the development of high performance hardware and GPUs. We all know that Nvidia, which is the most valued company today, started by making chips for online games. Studies in the UK have highlighted that advanced game engine technology is being used by surgeons to train for surgeries virtually. The oil and gas industry is leveraging AR-VR technology to reduce travel time and thereby reduce emissions associated with transportation. There are several other examples of this multiplier effect that gaming tech has on enhancing education, financial services, cyber security etc. Advancement in AI and blockchain technologies are driven by the need for making gaming platforms more engaging, secure and transparent. Ultimately, such spillover effects stimulate skill development, tech advancement and overall economic growth.

Thirdly, the legacy or the Indian way. E-commerce was driven and controlled by the foreign players primarily. But the instant delivery model of Indian companies is disrupting the e-commerce and kirana business in a big way.

We at Zupee are redefining the intersection of technology and Indian culture bringing India's deep-rooted cultural games to be experienced in the form of virtual games that build real world skills such as strategic thinking, resiliency and digital fluency. Online gaming can potentially feed into the indigenous metaverse for which favourable conditions are emerging right now very well like local electronic manufacturing, AI advancements around a billion smartphones with high processing power. This combination can provide us an edge in global competitiveness in this space.

However, I must add that none of this would be achieved or possible without the support from the government. Therefore, I would like to also acknowledge on this forum the pivotal role the government has played in shaping policy and regulations that have fostered innovation. Government support and a principle based rather than a prescriptive approach towards regulation has enabled startups to innovate responsibly. And I am confident that a similar approach will continue to encourage entrepreneurs like us to stay committed to drive innovation. I will conclude with sincere gratitude to the Minister ji, Secretary Ji and to everyone for listening to my views and a huge thanks to the Indian IGF coordination committee for organising this valuable and insightful interaction. Thank you. Namaskar.

4. Shri. Jitin Prasada, Hon'ble Minister of State for Commerce & Industry and MeitY (Keynote Address)

Thank you for giving me this opportunity early and for those words in my introduction. I do not know how much of those I can live up to but those were very inspiring words which she has spoken about me. Good morning and I am glad that I am here with you all today, and with us on the dais are the Secretary of the Ministry Mr Krishnan and Mr Chengetai Masango, Head of the UN secretariat for the IGF who has joined us online and there are a lot of other leading lights: Dr Nirmita Narasimhan, Programme Director, Saksham Foundation and Prof Rekha Jain, Senior Visiting Professor, ICRIER, Prof Rajat Moona, Director IIT- Gandhinagar, Mr Dilsher Singh Malhi, Founder and CEO of Zupee who we were just hearing, Mr Shivnath Thukral, Vice President of Public Policy of Meta India who has been known to me for a while, Ms Amrita Choudhary, Director, CCAOI, Mr Devesh Tyagi, CEO, NIXI and all the distinguished guests, participants, esteemed colleagues, friends from the media, it is my privilege to inaugurate this India Internet Governance Forum, IIGF 2024, a platform where we convene to deliberate on the future of Internet governance, shaped by the aspirations and ambitions of a digitally empowered India.

This year's theme of "Innovating Internet Governance for India" resonates deeply with our collective responsibility to ensure that the Internet remains a driver of growth that is sustainable, inclusive and equitable. The Internet today is not merely a tool for connectivity, it is the backbone of our economies, societies, and individual aspirations. I remember Pradhan Mantri Shri Narendra Modiji's lines from his launch of his digital India programme in 2015 when he said and I quote, "If earlier human civilizations were based around rivers and oceans, then later on, highways, then today's civilizations shall be based around fibre optic cables that is the Internet", unquote. India's digital journey since then exemplifies the transformative potential of technology with over 1.4 billion citizens and close to 1 billion Internet users.

India is not only the largest democracy but also a vibrant digital economy setting new benchmarks for innovation and inclusivity. The honourable Prime Minister has often said that this culture of innovation in our country is the foundation for Viksit Bharat by 2047. Under his leadership, India has become a powerhouse of innovation, evident in our strides in the global

innovation index rankings. As we gather to celebrate the progress in building a robust Internet technology ecosystem, this forum is an opportunity to reaffirm our commitment to harnessing the Internet as a force for equitable growth, and sustainable development.

Our discussions today should not only focus on addressing the challenges of Internet governance but also on exploring transformative solutions. Artificial intelligence is the cornerstone of these transformative solutions. Our vision is to make AI in India and make AI work for India as well as AI for today is placed for a transformative revolution. We have the world's biggest youth population, highest percentage of people using large language models and every three out of four Indian startups investing in AI. I'm sure you all are aware that the Rupees ten thousand crores has been approved in the budget for the India AI mission that aims to bolster India's leadership in Artificial Intelligence, democratize its benefits across the strata and ensure technological self-reliance. This derives directly from the vision of the Prime Minister who often mentions how trust in AI will only grow when related ethical, economic and social aspects are addressed. I'm sure you are aware of the seven pivotal initiatives of this AI Mission.

India has consistently demonstrated its firm conviction to establish global shared principles in an open, free and secure digital and technological future for all. Its participation in shaping the UN proposed global digital compact remains crucial. As one of the world's largest digital economies, India brings unique and valuable insights into how digital tools can empower populations at scale. In this context the upcoming WSIS+20 review, that is the World Summit on Information Society in '25 holds significant importance for India and the international community. The WSIS+20 review marking the 20th anniversary of the summit is a platform to assess global progress in building an inclusive information society.

India's transformative journey over the last decade marked by rapid digitalization, digital successes like UPI, Aadhaar, and Digital India serve as a model for other nations. Through its participation, India will showcase its tangible progress in bridging the digital divide and consequently several other divides such as regional, linguistic, gender-based and certain examples are that today 95% of our villages have been linked with 3G-4G connectivity, with a special focus on most inaccessible areas.

Our technology-enabled startup ecosystem has reached 600+ districts in the country with more than half of them being led by women. The government's flagship AI language tool, Bhashini, is helping all citizens access governance in their local language. It is our vision that Digital India brings out national and global solutions for the deepest interiors of our country. Tier 2, tier 3 towns and villages are to be at the forefront of this revolution. This will ensure that technology becomes the force multiplier in the country and provides opportunity to everyone.

India's tremendous progress in leveraging the digital economy to deliver good governance is already being globally lauded. From Direct Benefit Transfers to our DPI our technological

solutions set new records in governance. I remember the Prime Minister had remarked on his last visit to Poland that India's UPI daily transactions equal that of the population of the European Union. Our resilient Internet infrastructure part by the BharatNet project has reached most gram panchayats bringing the promise of the digital age to rural communities.

Yet, alongside all this progress, we must address the critical challenges of cyber security threats, misinformation and network disruptions. A robust Internet infrastructure cannot exist without adopting advanced security protocols and real-time threat detection systems. This will ensure that our digital networks remain reliable and secure even in the face of evolving challenges. The key to achieving this lies in collaboration, driven by engaging with a wide variety of stakeholders of whom the most significant are the users of the net. Their voices should resonate in both national and international forums. One such partnership is the Global Partnership on Artificial Intelligence, the GPAI which promotes multi-stakeholderism by fostering collaborations amongst governments, academia, industry and civil society. In fact, I have recently returned from the GPAI 2024 in Serbia where I highlighted this very aspect.

In India, we have demonstrated how this collaborative governance can deliver results whether it is Digital India empowering women entrepreneurs through digital platforms, enabling farmers with real-time market data, or enhancing children's access to education through e-learning. Other examples include myGov that enables citizens, businesses and governments to collaborate on policy making offering a participatory platform for feedback and ideas. Another instance of policy development through multistakeholder approach was the formulation of the DPDP Act where inputs received through public consultations were considered and adopted. The multistakeholder approach ensures that our policies remain open, inclusive, adaptive and responsive to needs of all. However, despite being the largest connected nation globally, our presence in the critical global public forums where global standards and technologies for the Internet are determined is notably under-represented.

It is a priority of our government to address this imbalance and ensure that our nation's perspective contributes significantly to shaping the global discourse on Internet governance. Another priority for us is building a green and sustainable Internet. The rapid growth of the digital economy comes with environmental challenges such as high energy consumption of data centres and electronic waste. As part of our sustainable commitments under the 'Panchamrita' declaration articulated by our Honourable Prime Minister in the COP 26, we have taken proactive efforts to reduce the carbon footprints of our digital infrastructure from promoting the use of renewable energy to incentivising green innovations. In the tech industry we are striving to align technological progress with environmental stewardship.

I also utilize this forum today to urge all stakeholders to integrate sustainability into their digital strategies. Most importantly, this forum is not only a platform for discussion but also a strong call to action. Our deliberations today will have far reaching implications for India's role in global Internet governance. The insights and recommendations emerging from this gathering

will shape our digital policies, ensuring that they are inclusive, secure, and future-ready, and enable India to lead by example. I encourage each one of you to actively participate in these discussions, bring forth your expertise, innovative ideas and diverse perspectives. Together, let us build an Internet that reflects the values of equality, transparency and sustainability, empowering every citizen and ensuring the Internet remains a force for good. And with that I end and I thank you all and I wish you all a successful and a productive forum, thank you.

5. Mr. Shivnath Thukral, Vice President, Public Policy, Meta India

Good morning everyone, thanks for coming in and it is quite an honour to speak right after the minister and I requested him to stay for a while although I know he has to leave. So I won't take very long, I will keep my remarks short. This is not the first time I have spoken at this forum and I think one of the great parts of the India IGF is that it lays the ground for what is going to come up later next week when the IGF forum happens.

One point the honourable minister touched upon which I genuinely agree is generally India is under-represented at the global forums when governance issues are discussed and I think that's one area, honourable minister, we would love to seek your guidance and support on how to ramp it up. The whole idea that the India Internet Governance Forum is able to talk about governance issues and I am sure you want to hear from those who govern and not from those who get governed, and to the friends in the Press, I know everybody's question to Secretary sir will be "when are the rules being released", and I am sure that question they will save for you later. In terms of an example of good governance, I think one the best parts of what I have learnt over the last few years here is how the Indian policy making has evolved so much that I would say it is one of the most participative than I have seen in any of my counterparts across the company where not only are consultations opened up during the drafting of the law but eventually after the law is made, open for consultations and then in India the unique part being the rulemaking process which is also very consultative.

So I would congratulate the government and commend the way it has been progressing over the last few years. It has only got better. And what it has led to from a governance perspective is allowing it to represent pretty openly and in an institutional manner. Gone are the days when you would play the shadow games getting articles written etc. I am sure that is still our mainstay but the fact is that one can approach this government pretty directly, pretty openly and make a representation saying "hey, as part of the consultation, we think this is not in the right direction, not because it will hurt me, but it will hurt the industry". So one thing which has happened from those who are governed, their perspective as well, is we have also elevated the debate to say what can enhance the industry's potential. That's number one. So we have led not only in terms of technological adoption but in the way governance has happened in India. I'll give two quick examples before I stop.

The other is India's offering. Honorable Minister, you mentioned about UPI. India's offering on DPI at these forums is now seen as the benchmark. There was a time when everybody used to say, "Oh it is only India, it's unique", and I remember Amrita was here last year when I spoke at the closing ceremony here and I said when I take UPI or I take DPI to my global forums internally in the company they used to be zapped, but now they are saying how can we do it elsewhere. Within the company. Payment is just one example. I mean when we talk about the health stack etc everybody is kind of quite excited. The question is how will it happen and that revolution has to be led by institutions which are quasi-government, the private sector etc. Not only in policy-making where we have evolved and become more participative, in an offering from a technological solution also we have become very participative.

The other aspect the Minister touched upon was the use of AI, and here I would like to spend a couple of minutes. Minister, you talked about large language models today. And I can brag a little bit about the concept of open-source AI where some of Meta's large language models are being adopted for Indian solutions, Kisan AI being one such example where they have built their own LLM using the base foundation of Llama 3.1. My simple submission at a governance forum like this and Secretary sir will agree, and I want to cite an anecdote from a meeting a couple of weeks ago where Secretary sir was there, but just to kind of enhance the value of open source AI: One, that allows innovation to happen locally. Two, it is in line with what India stands for when it comes to open source technology, open source standards. Third, the most important is that it is not exorbitant for Indian startups to adopt.

So those are the three main drivers open source should be looked at very very carefully and there has to be a revolution towards that. One piece which I wanted to highlight and it was discussed in a G2G meeting which was participated with the private sector companies – the western fear on AI is like you said, is job losses. The Indian excitement about AI is opportunity. I think the western hype about "oh let's regulate them more", will lead to destruction of the human civilisation, because I think they are looking at the other end of the stick whereas we in India have to look at the opportunity, how we will create more jobs, how we will create more companies, I think Dilsher is here, I am sure AI is mainstay in some of the analytics you do. I think AI is a massive opportunity for India. And I have heard from a governance perspective, very good noises. Where we don't have to bring in laws to regulate AI, there are enough existing laws, we have to look at the fallouts of AI and use existing laws to do that. Having said that I think I think I am being very bullish, I think India is a land of massive opportunities. For a company like Meta, our role is a digital enabler, a digital ally, and we are very excited that Digital India's overall mission is so headed in the right direction that forums like these are a great opportunity that forums like these, as the Honourable Minister said as to what is our AI, what is our action item and our action item should be how can we be more supportive of this very open and consultative forum. This one as well as the one which we have with the government and take India's position to the world and showcase that we are the third way, in fact a better way of governance of the Internet which is such a big opportunity. Thank you.

6. Prof. Rekha Jain, Senior Visiting Professor, ICRIER

Thank you for the introduction. I am very well aware of the time constraints that we have and also, many of the previous speakers…Thank you once again for inviting me and for the introduction that you gave. The previous speakers have already laid the ground and I will not cover those aspects in my presentation, for example, the mobile penetration, the geographic coverage and population wise UPI predominance and the usage of mobile money.

So what I would like to say is that ours is a first and early attempt at quantifying the impact of digital infrastructure and services on the GDP. We do understand that GDP is an inadequate metric for measuring the effect of Internet digital infrastructure and services on the population. However, it is simple, it is easily understood and it helps policy makers trade offs between different policy initiatives. GDP overlooks the critical benefits of digital infrastructure which includes the social transformation, the time efficiencies that are gained from streamlined processes and automation and it does not incorporate the value of free goods and open data and online platforms, and its role in improving epidemic control, disaster management etc. However, we are still using it because, as I said, it is a simple metric, it is easily understood by policy makers and it helps us to quantify and support evidence-based policymaking and therefore I am continuing to use this as a metric.

Here in this study, what we have done with BIF's support is we have evaluated the impact of digital infrastructure which is the mobile penetration, the fixed Broadband penetration, the increase in speed and the mobile money adoption and usage Matrix on GDP to the best of our knowledge. This is an early attempt; we have tried to be as rigorous as we could be but there are many caveats which I will come to towards the end of the presentation. We've relied on existing studies and adopted them for the Indian context. For the five years 2019 to 24 we have looked at mobile broadband and how much it contributed the fixed broadband and the speed of communication mobile communication we find that 10% penetration based on earlier studies we know that 10% penetration of mobile broadband contributes to 2.4% of GDP and therefore the contributions which were $149 billion in 2020 are 137 billion in 2023. Now all these metrics have the issue of being based on increases in speeds, so there's a limit to what the GDP contributions will be as we go forward as the denominator or as the base increases. The fixed Broadband penetration, it is fairly low in India right now, but despite that it has contributed nearly 100 billion to the Indian economy in 2023 and this is based on prior studies for the Asia Pacific region which say that 10% penetration adds 1.63% to the GDP.

When this contribution begins at a baseline value at least there has to be 2% penetration of fixed broadband and when we look at fixed Broadband we look at the penetration per 100 inhabitants because you want to cover the Broadband penetration over the geographic area whereas mobile broadband is on a per capita basis. If you look at speed the metric to compute the contribution to speed is a 1% increase adds 0.015% to GDP growth and we can see in 2023 when 5G was rolled out there was a very significant contribution to GDP amounting to $559

billion which obviously because as the speed increases will as a percentage of the Baseline speed will decrease this contribution is going to go down. Now if I look at how do we the mobile money the UPI we have been talking so we looked you know so there has been so much conversations about UPI the role of standards and the adoption across the Spectrum whether it is the large platforms adopting the electronic and mobile money, or it is the government doing direct benefit transfers through the mobile, or it is you know the QR codes the widespread usage of all of those that has contributed to this growth so here we have modelled it on GDP as a function of fixed Capital labour human capital digital infrastructure and services including mobile money and Broadband adoption and this is based on work which has been done by the GSMA global adoption survey on mobile money and this holds across multiple regions. The econometric model is fairly rigorous because it takes into account the endogeneity between mobile money adoption and GDP growth. Is it GDP growth driving mobile money growth or is it the other way around? That aspect is already handled by the way the regression equations are modelled and our analysis for India shows that there are network effects and critical mass impacts as is evident in these kinds of network things. The mobile money users increased from 10 million to 800 million over a 7 year period; look at the tremendous growth. And the GDP contribution just because we had more mobile money users increased from 1.34% of GDP to 3.24% of GDP. And GDP increases significantly after mobile money users reach a threshold. So below a particular level, the increase in GDP is very minimal and it increases after that which is what we call the critical mass effects. And after a 30% increase in the mobile money users, this effect tends to stabilize.

When we model the effect of mobile money users with the usage as the ecosystem matures we will see more and more transactions on insurance on banking products and other such products and this contributes in a synergistic way with the number of mobile money users increasing. So the combined impact of how the transaction values per account have grown from only one dollar in 2016 to $3,000 in 2023 and the GDP impact increased from 46% of GDP to 4.33% of GDP. So it's a very significant increase; you can see in the graph below that when I only look at just the usage part that you know the metric that captures how many transactions per account and which is the green line and the orange line which is a combined effect of mobile money users and usage, you can see the significant difference between them and the synergistic effect of this. So I'll come to the last slide. So what is very obvious from this study is that evidence based policy making is important. We need to be able to collect data, we had a lot of you know trouble getting the right kind of consistent data and I think we've been asking NIXI and asking MeitY that to support Nationwide collection of data on Internet based metrics, and this I hope the government will support to help it enhance its decision making infrastructure. So our study shows that because of the contributions to the GDP because of speed enhancements, we must accelerate fiber deployments through streamlined right of way and PPP models and this is something that the previous speakers have on – you know Zupee was talking about. We also need to invest in rural high speed Internet because the speed gap is going to contribute to an

economic gap to a regional gap and so on and so forth. We need to boost Internet speeds because we need to deploy 5G faster. More importantly, can we promote Wi-Fi proliferation?

Here is an SOS to the Department of Telecom and to the MeitY. Can we have the PM Wani, can we have the 6 gHz and 60 GHz Spectrum bands delicensed, unlicensed or lightly licensed as we go forward in an accelerated way because these contribute to speed enhancements. We need to strengthen financial inclusion through digital infrastructure and policy incentives for mobile money adoption because even now many of the users who could use it in the lower socio-economic class do not have smartphones that enable mobile money usage. So can we have policies that you know facilitate that adoption. And digital payment adoption, though you know the P2P infrastructure is fairly robust but I think making payments on government websites is still a problem many times and I think those need to be sorted out which can easily be done. Thank you, this is the end of my presentation. I hope I have stayed within the time limits. If there are any questions I'm happy to take them through email or through other mechanisms. But here my last statement would be all private sector public sector please support collection of data, its analysis data monitoring data analytics for policymaking if we want better digital governance. Thank you, thank you very much.

7. Mr. Chengtai Masango, IGF Secretariat

I'm sorry I was traveling today and I just got in at 3:30 this morning actually, so I am still organizing myself a little bit, but just give me one sec and I will start.

I hope the distinguished delegates are still there so I'll just start my prepared speech that I was supposed to read out earlier today. Excellencies Minister of State for Commerce and Industry and Electronics Information Technology, distinguished delegates. ladies and gentlemen. It is a great honour to join you at the national Indian Internet Governance Forum 2024 and I extend my gratitude to the IGF multi-stakeholder Organizing Committee of India for their efforts for making this forum a reality. The main theme of the meeting, “Innovating Internet Governance for India”, resonates deeply with the transformative role the Internet plays in shaping our societies and economies. It cuts across nearly all aspects of our lives, from work to education and to communication and social spheres. Opportunities and challenges differ from community to community. On one side, we have generative AI revolutionizing content creation and on the other we have 2.6 billion people that remain completely off the digital system. Your agenda recognizes this well by focusing on ways of empowering across regulatory frameworks and for governing AI responsibly, building trust and safety and joining our efforts for a green and sustainable Internet. These critical areas demand our collective focus and today we have the pleasure to learn from you.

Stakeholders in India have been aware of the priorities since the very beginning of our now strong Internet governance ecosystem. As a pioneer in the global Internet governance. India was one of the earliest hosts of the Internet Governance Forum back in 2008 demonstrating the

commitment to fostering a multi-stakeholder approach to shaping our digital future and let me tell you the IGF which was held in Hyderabad is still held as one of the high points of IGF annual meetings. It was really very well organized and people really had very fruitful discussions and they also had a very very good taste of Indian culture, the full spectrum of Indian culture as well. I distinctly remember that in my head even though it was, you know, quite some time ago.

Ladies and gentlemen, India stands at a unique juncture as one of the largest digital economies in the world. Your actions and policies can inspire and influence global Internet governance frameworks. The decisions made at India IGF will not only shape your community's digital future but also contribute to a more inclusive and sustainable global digital ecosystem. The timing could not be better as the 19th annual IGF meeting starts in just a few days. The government of Saudi Arabia will host the IGF 2024 from the 15th to the 19th of December in Riyadh under the overarching theme "Building a multistakeholder digital future". As stated, I am addressing you from Riyadh and together with the host country and our community, we expect that the 19th IGF will gather thousands of stakeholders from around the world to engage in constructive discussions on ways to harness digital technologies. Now we know that we are behind in achieving the 2030 agenda for sustainable development. Strengthening our actions through the power of digital has never been more important. I trust that the outputs of this IGF will enrich the Riyadh discussions with innovative ideas and the unique perspective that you have.

This is also a crucial moment to work together to shape our digital future. The 20 year review of the World Summit of the Information Society (WSIS) in 2025 offers a chance to look back at what has been achieved and more importantly to set the course for years ahead. And this will also complement the implementation of the recently adapted Global Digital Compact and its principles. I hope to see you in Riyadh this coming Sunday. If in-person participation is not possible, I also encourage you to participate online and to ensure the world learns from your exemplary work. I also hope for a physical invitation to next year's Indian IGF as I said I still fondly remember my memories of the meeting that I attended in 2008. Once again thank you for inviting me and I wish you fruitful deliberations, thank you.

8. Shri Sushil Pal, Joint Secretary, MeitY, Govt. of India

Honourable secretary sir, Secretary MeitY, Mr Shivnath Thukral from META, young gaming entrepreneur Dilsher, CEO NIXI, Amrita, ladies and gentlemen and Mr Chengtai as well from UN. Let me begin by congratulating the Indian IGF by choosing a very appropriate theme "Innovating Internet Governance for India". I also see that they have chosen very relevant topics under this Innovation theme which includes harnessing the power of AI, making Internet

infrastructure resilient, multi-stakeholder engagement in Internet governance and also focusing on the green and sustainable Internet.

As we all know, the Internet Governance Forum is one of the primary multi-stakeholder forums for a policy dialogue on Internet governance issues. This has been further underlined by the leadership panel of the IGF which has further suggested that IGF continues to play a very important role and needs to further enhance its engagement for a larger global impact outreach and also suggest the strategies. IGF has actually evolved into an important Global Digital Forum by fostering almost more than 150 national and the regional Internet governance forums across the world and all of them contribute actively to the policy dialogue and the evolution of the policy for Internet governance. Today's Indian IGF Forum event is one of such national and regional Internet governance events under the overall umbrella of the IGF. This particular event has a special Focus also because this might be the last event for India before the IGF further gets its extension or maybe gets into a new avatar you know after the WSIS plus 20 policy review process. We all know that IGF was formed in 2006 as a part of the Tunis agenda of the WSIS 2005 process and maybe next year when the WSIS plus 20 review takes place, It might be the time to review as to what all IGF has achieved.

IGF was actually conceived primarily to inspire and also to inform the public as well as the private sector on emerging issues of Internet governance. Therefore, as we come closer towards the end of the extended tenure of the IGF and we prepare ourselves for the review of the IGF mandate, it would be worthwhile to reflect upon the achievements on the contributions as well as the progress made by the IGF. We also need to reflect whether the existing terms of reference of the IGF which was devised 20 years back still holds relevance. The existing ToR of IGF which was devised 20 years back largely focused more on dissemination and policy engagements and informing all the stakeholders. But now you know, maybe we need to move beyond this agenda of accessibility. While the accessibility or connectivity agenda of the Internet still remains relevant, roughly around more than 2 billion people still need to be connected. But then with the emerging technologies issue, I guess the risk and the user harm also occupies a much larger role because this actually impacts the level of trust with which people use the Internet. Maybe it would be a good time also to review as to whether IGF does actually need any kind of funding support. This deliberation has been going on for the past many years but I think there has not been any concrete action whether the IGF needs more funding support or it actually needs more power so that it can actually emerge as one of the important and significant stakeholders in overall ICANN Internet policy engagement.

From the government side, as a part of the GAC which is the Government Advisory Committee in the ICANN, I think we faced many issues concerning the Internet governance and these issues range from the new rounds of the gTLD application support for the new gTLD rounds, the high cost of applications and dissemination of information in the languages. Other than the six languages, we see that Portuguese is the new language that has been added in the ICANN. I think, do we not, being the largest one of the largest users of the Internet, have a case to project

maybe one of the Indian languages as the language in the ICANN? The accuracy of WHOIS data is another important issue and enablement of the mechanism for providing information on urgent basis whenever this information is sought by the law enforcement agencies. These are also very important issues which affect the developing countries a lot because this actually impacts the level of trust in the users.

The creation of a new regional Internet registry is also an important topic and recently we saw that a policy paper has been circulated by the ICANN for the creation of a new RIR and it's actually very baffling to see the policy paper which has been circulated because the new policy paper talks about that no new RIR can be created by carving out from the geography of the existing RIR. So it's very confusing to conceptualize as to how do we, and why do we need a new RIR as such, and also that the creation of any new RIR would be decided by the committee consisting of the existing RIR themselves. So it's kind of being a petitioner and a judge in its own cause.

I think although we from the Government of India side have shared a detailed policy response to the ICANN on this policy paper but we would also request the Indian Internet Governance Forum to go through that policy paper and maybe our responses as well and also take it up at the ICANN at the relevant forum so that we can make a case for a creation of a new RIR not only for India but also as well as the neighbouring country. Creation of a new Regional Internet Registry actually also is very important not only in terms of the management of the Internet governance within the country but also in terms of creating capacities of the people as to how the Internet is managed. So this technical capacity building of the community is very important and apart from that, it also gives us a place in various Committees of ICANN. So if we are looking for a larger representation in the ICANN in various committees, I think definitely there is a strong case for having an RIR which is in India or for the larger subcontinent.

Our experience in ICANN has also been that the process of consultation has been very long and time-taking and even the UN Secretary General has also remarked that last year actually as a part of the GDC that there exists a clear gap in Internet governance although the gap was not clearly spelled out. But this concern actually has been made at various forums by the top leaders. We understand that the Internet is a very complex process and it actually connects thousands of the networks across the world and they all work at the same time in every possible second by working on a common set of standards and protocols. But the ICANN process is also very complex. So having a very complex governance process to manage something which is already very complex, it completely slows down and delays the decision making. I think maybe in that scheme of things you know whether the Indian IGF or IGF as such can play a larger role, can actually be a catalyst to expedite decision-making and can be a catalyst to put forward the agenda of developing countries' Internet governance.

I think we all need to reflect upon and if we can do that, I think that would be something really something to look forward to. And apart from that, the UN General Assembly when it adopted

the GDC apart from as an annex to the Pact for the Future among other things, the global digital compact does support the IGF as a primary multi-stakeholder platform and it also recognizes the technical community as a distinct stakeholder and underlines the multi-stakeholder process. Therefore IGF has far more responsibility on its shoulders and I'm sure after the WSIS plus 20 review process we would see IGF into a new avatar, which is far more powerful and much more energized and is ready to take forward the agenda and on that note I hope today and tomorrow's discussions in the Indian IGF would discuss these topics and send some credible suggestions both to the IGF as well as to the government to further the concerns of developing countries in the overall Internet governance process. Thank you.

9. Shri S. Krishnan, Secretary, MeitY

Thank you again for that generous introduction. We heard from the Honourable minister of State for Commerce and Industry and Electronics and Information Technology Shri Jitendra Prasad ji, Mr Chengetai Masango, Head of the UN Secretariat for the IGF, Prof. Rekha Jain, Senior visiting Professor from ICRIER, Professor Rajat Moona, Director of IIT, Gandhinagar and present here on the dais, Shri Shivnath Thukral, Vice-president, Public Policy in Meta, Ms Amrita Choudhury, Director CCAOI, Sri Dilsher Singh Malhi founder and CEO of Zupee who gave us an idea of what youthful entrepreneurship is all about in this country and my colleague in the Ministry of Electronics and Information Technology, Shri Sushil Pal. I think the event started with a very good recollection of what was discussed in the last edition of the IIGF and what actions have been taken.

Clearly, there are a number of steps which need to be taken in order to ensure that the Internet continues to remain what it is today to a huge segment of the global population and also a very very large segment of India's own population. I still remember days when the Internet was a complete novelty, no one took it all that seriously. An email would be sent and it was never regarded as a valid piece of communication till you received a signed copy of a letter. Those were the days that we recall. The Internet today has replaced all of those modes of communication and it has become the first line of communication. Today we have laws which are written as being digital first so we are in a situation where we have adopted the digital mode of functioning into practically everything that we were doing. Large chunks of the Internet were governed and administered almost entirely as a voluntary effort at a particular point in time; that was a time when we were trying to popularize the use of the Internet, something which people were attempting to make sure gets adopted more widely. It's a bit like what Victor Hugo said. you can never stop an idea whose time has come. Nobody could stop it and now everyone uses it, everyone adopts it. It's part of what we do on an everyday basis. It's part of our life every day, every minute. Even as you know many of you scroll through your phones here or look at something you're finding information getting information. You have things which sit in your pocket, that's how much digitalization has changed the world in the last 20 or 25 years.

That being the case, I think it's very important that something which has become an essential part of everyone's everyday life is protected, conserved, made resilient and we ensure that it is not weaponized against us, against humankind. I think that is what is very essential. So we move beyond a stage where you're just trying to ensure that it gets adopted more widely, today, we have the number was cited by Dr Tyagi, we have 955 million users in India alone and globally there are so many more; it has become a basic necessity for most people in their everyday life and everything that they do today. Why do I need to turn up in an office or why do I need to turn up and meet you in person when I can send you an email, I can talk to you on the phone or at best we can do a video call and figure out what needs to happen. That is the way in which we communicate, when it has become so ubiquitous, when it has become so part of everyone's life, I think we have an even greater duty to make sure that it is kept secure, it is kept resilient and it is not misused in a way that hurts people. Which is why there are many elements of Internet governance which have suddenly become significantly more important than they were before. And India having so many Internet users and for whom using the Internet has become a way of life, many people are dependent on it for incomes in a number of ways, more ways than we can actually imagine, I think is a situation where we have to necessarily protect the way the Internet is used, to make sure that it is available for the good of the largest number in this country. I think this is the critical element that we need to think of and we have to think of ways in which this can happen.

Dr Rekha Jain's presentation talked about how you actually strengthen the entire network within the country, the need to actually make Broadband available. See, the way India consumes the Internet is very different from the way the rest of the world does. We do it on the basis of mobile data. 90% of Internet access is based on mobile data connections; in the rest of the world it's entirely the reverse, 90% is based on wired connections. Broadband networks, fiber optic networks: it's been tremendous for the expansion of the Internet; but in the long run is it something which is resilient enough or should we be investing in Broadband connectivity and making sure that it goes out, that is a question which needs to be asked. We have the national fiber optic network which is being rolled out and hopefully when that is done and you know there is much more connectivity through those means and more speeds and more information being consumed, it might become even more important to India's own population. So as it becomes part of that, a lot of aspects need to be tied up.

Yesterday, I was walking through some of the streets of old Delhi. If you actually look up and see and I'm sure many of you who live in different parts of Delhi would have seen it; if you actually look up and see the kind of cables which are carried along the sides of the roads, along the street lights and along the lamp posts, you start wondering, is this what we are relying on? It is worse than a spaghetti bowl of cables and the image is something that I can't actually take out of my mind. I think it was this thick bundle of cables, individual cables which are being carried, and how are you ever going to find out whose connection is coming through which and many of them probably are redundant and they're just stringing on more of them. It's an informal way in

which the entire Internet and entire connectivity cables and all of that have been connected across the country.

Now is that resilient enough? Is that safe enough? Is that secure enough? Is it something which will withstand various kinds of possible disruptions? We've become so dependent on it, isn't it time that we looked at and focused on the kind of infrastructure on which it is carried and the way that it actually works? For us that is becoming significantly more and more important. That is an area where I think we need to focus on much more within the country, undoubtedly the extent of the way in which we are carrying it through, the way in which we are able to offer reliable connectivity, the way in which we are able to offer reliable bandwidth is becoming virtually a necessity, and who knows, one day it might just get enacted judicially into a right, into an entitlement that people that people can have, which means that governments need to focus on this and need to focus on how to make that particular set of infrastructure much more resilient.

We have a large number of submarine cables which lead the Internet into the country. Now what happens if at some point there's a disruption? Are we stable enough within the country to ensure that all the services that need to be offered to citizens of this country can be offered even in the event of a disruption? That is what Internet resilience ultimately is all about. All the data that needs to be stored within this country to offer essential services, I don't mean a whole bunch of Instagram pictures I mean I don't really mind where they are stored, but all the financial data, all the data which relates to power utilities, all the data which relates to telecommunication utilities, a whole host of other data which is required for people to actually live their daily lives on a digitized basis as we do today. Do we have the data centre capacity within the country to store all of the data that we need? Can we do what we need to do, is the next question but can we do it is one question and we need to be prepared for, which we need to work towards, to plan for that capacity and make sure that it is provided immediately.

It raises the issue of power today. The biggest question is availability of power. You know that globally all the big major technology companies are trying to figure out ways in which they can secure adequate power for AI applications and related to that is data centres and as we adopt AI more and more, the minister pointed out the importance of adopting AI, as we adopt AI more and more, do you have enough power supply to power that and otherwise where do you make sure that this power supply comes up in a way that we are able to address this issue? This is again something that MeitY is looking into right now to make sure that along with the Ministry of Power, along with the Ministry of New and Renewable energy sources and all other related agencies, we plan for this capacity to make sure that we have enough power for the data centres and for the AI compute facility that we need in this country which will underpin what needs to be happening on the Internet.

These are all issues which are extremely critical. Equally you know how the Internet itself is used today. It is very easy for anybody to open a new Internet domain and squat on a particular

piece of Internet real estate. We were reading about with great interest, I think some couple of young siblings who had opened up something on a particular domain name on Jio and then you know it was a question of how do you get them to part with it? Now that sounds amusing. It's a commercial story but it could happen to anybody and it could happen to anything. How have we secured ourselves against that at a time when you want people to open more domain names, want people to open more websites? It made a lot of sense to allow that free, it made a lot of sense to make it really easy so that there was greater adoption. Now has the point of inflection come where there's been adequate adoption and now you need to look at a situation where we are more circumspect about the way in which new websites and domain names are opened? We do what nowadays is very famously called KYC to ensure that you know we open it only for the people who really need to do it.

These are all questions which need to be addressed equally in terms of infrastructure. There was talk of the standards which need to be applied, for the protocols which need to be applied, the kind of say that Indian companies need to have in it, that again is Indian companies, Indian stakeholders need to have in it in order to connect up to what needs to happen. So all these become vitally important questions and I think those are the questions which these two days of deliberations in the IIGF really need to need to address and this is the preparation that we need for the IGF which is coming up in Riyadh and eventually the way in which we approach the WSIS next year because that's when the entire review of Internet governance really takes place and India really needs to take its rightful position there. And when we talk about a multi-stakeholder approach and that's the beauty of IIGF itself that it is a multi-stakeholder approach. I think it's very important that we sit together discuss the issues which we need to discuss, figure out what the country's priorities need to be, what is in interest of the multiple stakeholders who are part of this setup even here in India, what each one of them requires, what are the interests that need to be protected, ways in which the overall the interest of India's Internet consumers, India's Internet users are fully protected because it's no longer a matter of you have to protect it the way you protect the electricity grid; you have to protect it the way you protect any other piece of essential infrastructure that the country has. You can't treat it as just an amateur game where you just keep expanding it. It has now become essential; it has become central. In some ways having an amorphous structure to do it, having a structure where you know there are a number of agencies as a community who are responsible for it is probably good. I'm not saying it is necessarily bad; it may be a good structure to have simply because when you have so many players you balance each other out and you prevent anything too wrong from happening. It is possible but we need to think about it and we need to think about it strategically and figure out whether that is the best way to go about it and what further safeguards do you need in order for that to happen.

So, these are the kind of issues that I would really hope IIGF this year again focuses and looks at these issues and figures out how we go forward. They've selected, as I said, very very interesting themes for discussion. There is the power of artificial intelligence which needs to be looked at. People have already spoken about it. My friend and colleague in the ministry Shri

Abishek Singh is there for the next session, and he will probably talk about how we can actually use this. You have a session on resilient Internet infrastructure, I would be extremely interested to see what comes out of that particular session in terms of you know how we can actually design this and go forward both from a technical and a legal perspective, that would be a very interesting area. We are concerned with the role of the multi-stakeholder community to build a digitally empowered India. Again multi-stakeholder in this context is extremely important: all interest groups need to be represented and their key interests need to be protected and the broader interests of the country itself need to be protected and that's one way of bringing it all together. Of course building a green and sustainable Internet, as green power and especially as there will be significantly larger power requirements, how they'll be met, will be an important element. So I think all of these are very critical points of discussion which need to come up and in the Indian context what we need to do is extremely significant.

Two other issues that I would raise in the Indian context, one of course is language and we have pushed the point that joint secretary Mr Sushil Pal already made; we've pushed globally that there needs to be greater adoption of Internet-based languages the way domain names are named and opened. Now it is possible in 22 Indian languages, is what I understand. All of this is something which will enable greater inclusivity and greater participation in the way that the Internet gets used and in the way that people are able to take to the Internet particularly in a multilingual country like India. So that's very positive development and that's again something which needs a message that needs to be taken forward because many people are probably not even aware that it is possible and that's something which we work on.

And another key element of this of course is the cyber security dimension of it. And cyber security on an everyday basis is becoming more and more important as we rely on the Internet itself to actually take care of much of what happens in terms of interfaces. That becomes very important and somewhere along the line I think in that sense it was briefly alluded to that when AI is used in the Indian context we believe that the legislation is currently adequate and I truly believe so. Because when you actually read through, recently I think last week financial times carried a full page article on how regulation of AI is becoming an issue in different countries especially of deep fakes and so on there are many countries which don't have adequate laws, fortunately in India there are laws and already laws on misrepresentation and things which can be used for that purpose. So that's one part of it which gets taken care of; but there's another part which doesn't get taken care of which is you know how is the responsibility fixed in today's context of section 79 of the IT Act. How is the responsibility fixed because it's an unvaried character, unvaried set of Internet intermediaries; so is there need for better classification. Need to look at who carries how much responsibility because again that's very vital in the case of the Internet, because the Internet is a basic pipeline. It is fundamental and it is important for the resilience of the Internet simply because the Internet itself if you were looking at it as just a network of pipelines which will carry information flow, it deserves and it requires to have full safe harbour. I mean nobody who is a participant in that process and that's what it's fundamentally intended for but the intermediaries in the process could be many. There could be

pure infrastructure technological intermediaries, there could be others who are not necessarily pure technological intermediaries where different levels of responsibility may lie and especially in an AI context. That responsibility may change, so that's something which needs to be examined as well and I would love to hear from this forum as to what their thoughts on that aspect itself are because that is something which could be an important issue on which we need to deliberate and how exactly that needs to be looked at. So these are the two other issues that I think need to be part of the agenda of the discussions in the coming sessions and we would be in the Ministry of Electronics and Information Technology extremely interested in hearing about what the outcomes are. And we would expect with expedition we need to take this whole thing forward.

I think we are again at an inflection point in terms of the governance of the Internet. There are important international fora which are going to meet both in Riyadh later this month and also globally next year and before that we need to get our entire stance on the Internet governance aspect together. We have many elements of it already in place, we have been steadfast in the way that we have followed up many of these elements and I think as a multi-stakeholder forum we should get everybody on the same page literally so that we are able to be a much more forceful voice in the international fora. And India representing 955 million Internet users has a voice which is equivalent to its population, equivalent to its importance in the globe in the Internet Governance Forum as well. Thank you very much for giving me this opportunity. I think this is an extremely important event and we need to work forward on this basis. You've received excellent guidance on this from the minister and the other speakers and I think there's a lot that you can chew on and come back to us in due course. Thank you.

10. Prof Rajat Moona, Director, IIT Gandhinagar and Vice Chair, Coordination Committee, IIGF: Vote of Thanks

Thank you. Today we had a very auspicious start of the India Internet Governance Forum. Shri Jitin Prasada, Honourable Minister of the Ministry of IT, Industry and Commerce actually talked about and did put some very interesting aspects of the emerging Internet with AI and such kinds of things and we are extremely thankful to him for being able to spend some time with us. Secretary Respected Shri Krishnan ji, your talk today actually did put in a lot of scope for what the Internet is going to be and your openness to be able to say how we can incorporate the things from here, I think is very heartening and thank you for that being here for such a busy time you could spend so much time here. Joint secretary Shri Sushil Pal ji for sparing his time here, my other fellow colleague Professor Rekha Jain for giving a beautiful talk on data on the Internet and policies built around that. Shri TV Ramachandran, President of Broadband India Forum for not only being present here but also guiding the entire IGF 24, and right from IGF 2021 onward as one of the Vice Presidents of the Coordination Committee. Shri Shivnath Thukral, Shri Dilsher Singh Malhi for being here also Shri Devesh Tyagi ji as Chair of IGF Coordination Committee, Miss Amrita Choudhury, from IGF Coordination Committee, Mr Chengetai Masango from IGF for being able to address us and everybody else. I would like to

extend a warm thank you to all of them for being part of the journey of the inaugural session today. All the distinguished delegates, people from the Ministry, people from societies of the government ministries, people from Broadband India Forum, Abishek ji, additional secretary in Ministry of IT, all members of IT Ministry, all members of societies and everybody else present for being here. I think on behalf of the Coordination Committee from the bottom of my heart I actually extend my thanks to all of you, people from media, people who have supported, coordination and volunteers, thank you very much for such a big show.

2. Main Panel 1: India AI Mission: Harnessing the Power of Artificial Intelligence for a Sustainable Future

Panellists

- Shri Abhishek Singh, Additional Secretary, MeitY
- Mr. Sunil Abraham, Public Policy Director – Data Economy and Emerging Tech at Meta India
- Mr. Dipendra Manocha, Managing Director, Saksham Disability
- Dr. Sarayu Natarajan, Founder, Aapti Institute

Moderator

Mr. Rakesh Maheshwari, Independent Consultant and Former Sr. Director Group Coordinator, MeitY

Summary

This session provided a comprehensive overview of India's strategic initiatives in artificial intelligence (AI). The session highlighted the mission's seven foundational pillars, its inception, current progress, and collaborative efforts with industry leaders like Meta to position India as a global AI leader. In March 2024, the Union Cabinet approved the IndiaAI Mission with a budget outlay of ₹10,371.92 crore. This initiative aims to strengthen India's AI innovation ecosystem, aligning with the vision of "Making AI in India and Making AI Work for India." According to the Stanford AI Index Report 2023, India leads globally in AI skill penetration rates, surpassing countries like the United States and Germany. However, India faces challenges in AI research investment and computing power availability, with nations like the U.S. and China significantly ahead in these areas. To address these challenges, six working groups were established to identify key issues and develop strategic solutions. Their comprehensive reports led to the identification of seven critical pillars for the IndiaAI Mission.

The IndiaAI mission has seven pillars as follows:

1) AI Compute Infrastructure: Recognizing the challenge of limited computing resources, the mission plans to establish a public AI compute infrastructure with over 10,000 GPUs to catalyse AI innovation. This is a significant step, though it remains modest compared to global counterparts.

2) AI Applications: The mission is developing 25 applications targeting socially relevant sectors for deployment at a population scale. An overwhelming response was received, with 900 applications submitted for consideration.

3) Dataset Program: A comprehensive dataset program is slated for launch by January 2025, providing quality datasets to fuel AI research and development.

4) AI Skilling and Education: Establishing data labs to train individuals as data scientists, this pillar focuses on building a skilled workforce to meet the growing demands of the AI industry.

5) Funding Support for Startups: The mission offers financial assistance to AI startups, fostering innovation and entrepreneurship within the sector.

In terms of collaborations and industry contributions, Meta has integrated W3C's Web Content Accessibility Guidelines (WCAG) 2.1 into React Native to enhance accessibility standards. Additionally, Meta has contributed to the IndiaAI Mission by providing Digital Public Infrastructure (DPI) at no cost. The company advocates for the development of multiple specialized AI models rather than a singular, large model, exemplified by their creation of models like Llama 3.2 and a 128MB mobile AI model. Meta also supports open initiatives such as the Open Catalyst Initiative, aiming for zero-carbon fuels.

The discussion on legal and ethical considerations brought out that the implementation of assistive AI technologies is guided by standards like IS 1780. Non-compliance, as per Supreme Court directives, may result in penalties, highlighting AI's role as a significant enabler for Persons with Disabilities (PWDs).

The session underscored India's commitment to leveraging AI for sustainable development. While the nation leads in AI skill penetration, challenges in research investment and computing infrastructure persist. The IndiaAI Mission's multifaceted approach, coupled with industry collaborations, aims to address these challenges, fostering an inclusive and innovative AI ecosystem. Continuous awareness and capacity-building efforts are essential to fully realize AI's potential in India.

Key Takeaways

- IndiaAI Mission's Strategic Focus: Launched in March 2024 with a budget of ₹10,372 crore, the mission is structured around seven pillars, addressing the issue of compute infrastructure, applications, datasets, skilling, funding, foundational models, and safe AI practices.

- Global Leadership and Challenges: While India leads in AI penetration (Stanford AI Index) and GitHub AI projects, it faces challenges in research investment and compute power, lagging behind global leaders like the US and China.

- AI Compute and Applications: The mission aims to deploy 10,000 GPUs initially, scaling to over 20,000 by next year. It is also developing 25 socially impactful AI applications for deployment at the population scale.

- Collaborative Contributions: Meta has supported the mission by providing free Digital Public Infrastructure, integrating WCAG 2.1 for accessibility, and advocating for multiple AI models, including their Llama series and mobile AI innovations.

- Future Roadmap: The mission emphasizes ethical AI, skilling, and research, with plans to launch a national dataset program by January 2025 and create foundational models tailored to India's unique requirements. Awareness and capacity-building efforts remain pivotal for sustainable AI growth

3. Workshop 1: Enabling AI for all, By all

Panellists

- Mr. Ajai Garg, Advisor, Koan Advisory and Director, Digital Tech & Law Group, Anand & Anand Associates

- Ms. Aparajita Bharti, Partner, The Quantum Hub

- Mr. B. Shadrach, Director, Commonwealth Educational Media Centre for Asia (Online)

- Ms. Charu Chadha, Tech Policy Expert

- Ms. Kirti Seth, Ex-CEO, IT-ITES Sector Skills Council, NASSCOM

- Ms. Sonia Dosanjh, Associate Director, Head of AI & Analytics, C-DAC Mohali (Online)

Moderator

Gaurav Sharma, International AI Policy and Advocacy Advisor

Summary

The workshop delved into leveraging Artificial Intelligence (AI) as an inclusive tool to address diverse societal needs, particularly in marginal and underserved communities. The discussions emphasized governance frameworks that ensure that AI is inclusive, equitable and accessible to a diverse society, India AI's potential in skilling, educating and to drive socio-economic transformation in areas like healthcare, agriculture, and disaster management and making technology accessible beyond privileged circles.

AI's Role in Bridging the Digital Divide: Panellists discussed how AI has shifted the narrative of technology being an elite privilege to becoming a grassroots enabler. Examples included AI-driven tools for translation and literacy, empowering marginalized groups and artisans under initiatives like Project Vishwakarma. These efforts demonstrate how AI can serve as an instrument for inclusivity and digital equality.

India's Unique Model of Technology Adoption: India's success with public digital infrastructure like UPI and Aadhaar, which scaled at unprecedented speeds, enabling financial and social inclusion was touched upon. The discussion stressed replicating this model for AI, focusing on sovereign, interoperable, and inclusive frameworks that prioritize societal benefit over control by global powers or authoritarian regimes.

Challenges in AI Governance and Sovereignty: The panel explored the risks of concentrated AI control, emphasizing the need for frameworks addressing bias, accountability, and inclusivity. Emphasis was laid on fostering AI's societal proliferation instead of control. A proposed governance model for India could focus on collective IP, public-private data integration, and addressing India-specific challenges through localized AI solutions.

Skilling and Education in AI: The importance of skilling at all levels was underscored—targeting individuals, businesses, and policymakers–a pyramid model, it stresses inclusivity for "All" (end users), "Many" (skilled workforce), and "Few" (specialists like IIT researchers). AI's transformative potential lies in its ability to include marginalized communities, as shown in initiatives like Project Vishwakarma, which provided digital literacy to artisans. However, AI skilling must integrate with foundational education, leveraging policies like the National Education Policy 2020, which require robust implementation mechanisms. The key challenge lies in scaling the "Many" to bolster the "Few," ensuring innovative, cutting-edge solutions while addressing systemic gaps in skilling and education alignment.

Capacity Building for Marginalized Communities: Particular emphasis was made to the role of capacity-building initiatives targeting marginalized communities, such as farmers and educators to include the excluded, ensuring no demographic is left behind.

Gender Aspect of AI: Artificial Intelligence (AI) holds immense potential to empower communities, but it also risks perpetuating societal biases, particularly in gender. Historical data used to train AI systems often reflects existing patriarchal structures, leading to gender-biased outcomes in critical areas such as employment, education, credit, and healthcare. A recent UNESCO study highlighted significant biases in popular AI models, affecting not only women but also individuals with disabilities. Despite 40% of women enrolling in Science Technology Engineering and Mathematics (STEM) courses in India, the workforce participation in engineering and AI development drops significantly. Increasing women's participation in AI development is critical.

Targeted Sectors: India's unique position as both a consumer and a builder of AI, emphasises the need for diversity and inclusivity in AI development to create solutions tailored for local and global challenges. India's strengths in disciplines like Earth observation, material science, pharmaceuticals, and engineering, can be leveraged perhaps to drive gender neutral diverse impactful AI applications. By leveraging its robust talent pool and interdisciplinary collaboration, India can lead in creating innovative, scalable technologies while addressing global industry needs. There was also a suggestion for leveraging existing LLMs with Indian-specific data which can make them more relevant. India's unique advantage lies in its abundant talent pool, which will become increasingly valuable globally. This optimistic approach encourages focusing on building impactful solutions while leveraging India's strengths in people and application development.

Key Takeaways

- AI Literacy Mission: By integrating AI literacy into educational frameworks and reaching underserved communities, India can ensure equitable access and enable every individual to participate meaningfully in the AI-driven future.

- Addressing Gender Challenges: AI systems must be trained on diverse and balanced datasets to avoid reinforcing discriminatory patterns. Techniques like synthetic oversampling can help mitigate biases against minorities in data.

- Inclusive AI by design: AI must cater to local languages, cultural nuances, and rural contexts, meeting people where they are rather than where we assume they should be. Collaborative development involving underserved communities and rapid action to democratize AI are essential to ensure it truly transforms lives across India's socio-economic spectrum.

- Agentic AI: Represents the next evolution of artificial intelligence, focusing on creating productivity and real economic value beyond the current generative AI systems, which are primarily information-based, Agentic AI has the potential to be a transformative force, enabling startups to build advanced, value-driven solutions. Its development

requires strategic planning, robust funding, and collaboration. By thinking ahead and fostering agentic AI, India can solidify its position as a leader in creating impactful AI technologies that drive productivity and economic growth on a global scale.

4. Workshop 2: Report Launch and Discussion- ICT for Empowering Accessibility/Inclusion: The Impact of Digital Integration on the Lives of Persons with Disabilities (PwDs)

Panellists

- Pradeep Anirudhan, CSS, Director, Department of Empowerment of Persons with Disabilities, Ministry of Social Justice and Empowerment
- Dr. Praveen Misra, Chair, ISOC Accessibility Standing Group
- Nipun Malhotra, Co-Founder, Nipman Foundation
- Rohit Kumar, Head, Public Policy Government Affairs, Zoom
- Dr. Arpita Kanjilal, Manager, Digital Empowerment Foundation

Moderator

Osama Manzar, Founder and Director, Digital Empowerment Foundation

Summary

The session began with a video presentation highlighting the challenges faced by PwDs in accessing social and economic opportunities and the transformative role technology can play in addressing these issues. The discussion revolved around leveraging Information and Communication Technology (ICT) for inclusion, empowerment, and livelihood generation for PwDs.

Prior to the release of the Report, key highlights from the survey were put forth: the report revealed significant gaps in meaningful digital connectivity for PwDs, despite India's increasing adoption of technology. The study underscored the need for hyperlocal, evidence-based research and inclusive digital design informed by comprehensive, diverse, and

up-to-date disability-related data, given that the last census providing the number was as old as 2011.

The Moderator traced the historical approach to disability as a problem-solving exercise, and stated how this study was a step in shifting this to viewing involvement of PwDs as an opportunity to give them a platform to contribute. Further, how digital platforms can give PwDs representation and a voice. He highlighted the importance of proper data and research as the foundation for leveraging the digital ecosystem effectively.

Mr. Anirudhan discussed the government's role under the RPwD Act, 2016. Further, he talked about categorizing accessibility into three verticals: physical environment, mobility, and ICT. He also emphasized that even though there were standards and guidelines, now PwDs were demanding a more structural rule or rights-based approach. He acknowledged that while data-driven decision-making is advancing, stricter enforcement and sensitivity in implementation are required.

Mr. Nipun Malhotra highlighted the evolution from charity and medical models to a social model of disability, which views PwDs as solution providers and not mere liabilities. He shared that the spectrum of disability is diverse and in order to address all types of disabilities, PwDs should be made part of the decision-making process and nothing should be done without them. A bottom-up empowerment approach is required to make digital ecosystems more citizen-oriented.

Mr. Rohit Kumar outlined how Zoom integrates accessibility, adhering to WCAG Guidelines Level AA, EU guidelines, and Section 508 requirements. He highlighted that adaptability of inclusive design should be from the first go and shared cost estimates for making websites accessible can make the process affordable. He also pointed out that while big companies often comply due to global obligations, inclusivity remains limited among smaller firms. Unless it is made mandatory or enabled/incentivized to implement, it would not work out.

Mr. Praveen Misra spoke about how lack of digital access exacerbates exclusion for PwDs, citing Aadhaar and ration systems as examples. He emphasized the importance of training developers to design sensitive, accessible platforms and how the platforms as well as features on these platforms need to be tested on PwD users to make them effective. There is in fact no extra cost involved in making websites and platforms accessible if the same is done by design.

In closing, participants stated that disability education and awareness should be mainstreamed across all sectors so that everyone is aware of how disability needs to be tackled, say in education or law or digital tech. There is a need to strengthen enforcement of accessibility standards and guidelines while also collecting data to ensure that policies are tailored and

evidence backed. It was necessary to prioritize inclusivity in the design phase of digital platforms to ensure sustainability and sensitivity.

Key Takeaways

- Disaggregated data: Data collection about PwDs, not only of their numbers but also of the diverse kind of PwDs in order to assess what kind of intervention is required to address each of the different kinds of disabilities.

- Policy and Decision-making: Inclusion of PwDs in the policy making and decision-making processes is crucial to enable on ground change.

- Inclusivity by design: There is no extra cost involved in making websites and platforms accessible if the same is done by design. Developers of apps and platforms need to be sensitized from an inclusivity point of view and the testing of apps/platforms on PwDs to ensure effective inclusivity. Prioritize inclusivity in the design phase of digital platforms to ensure sustainability and sensitivity

5. Workshop 3: Regulating Digital Media: Navigating Content Governance in India

Panellists

- Dr Satyanarayanan, Director HRD & Digital Economy Division

- Ms. Aditi Aggarwal, Technology Journalist, Hindustan Times

- Mr. Sunil Abraham, Public Policy Director – Data Economy and Emerging Tech at Meta, India

- Dr. Vagheshwari Deswal, Professor, Faculty of Law, Delhi University

Moderator

Shiksha Dahiya , Manager, Public Policy, Chase-India

Summary

The Workshop featured a diverse panel of experts discussing the evolution, challenges, and future of content governance in India's digital landscape. Key discussions revolved around the

IT Act 2000, its amendments, intermediary liability, content moderation, and emerging challenges such as algorithmic biases, fake news, and the role of AI in regulating content. Discussions focused on bridging regulatory gaps, ensuring platform accountability, and addressing the complexities of content governance in a rapidly evolving digital ecosystem. The Q&A addressed safe harbour protections, regulatory clarity, and balancing innovation with accountability.

Discussing the evolution of the IT Act, the panellists noted that it had transitioned from enabling e-commerce to addressing cybercrime, digital media ethics, and cyber hygiene through intermediary guidelines. However, there were challenges with outdated definitions of intermediaries and publishers. In the case of content moderation, there are issues stemming from multiple regulatory bodies (MeitY, MIB, DOT) and their overlapping mandates; which called for streamlined governance. It was also pointed out that while AI has improved the efficiency of detecting and removing problematic content (e.g., hate speech), concerns over bias, accuracy, and ethical implications persist. The panellists debated balancing free speech with regulatory interventions, highlighting the need to refine vague legal terms to avoid misuse. The lack of representation for independent news creators and fact-checkers in consultations was criticized, underscoring the need for broader stakeholder involvement.

During the question-answer session, there were calls for defining liability more clearly for intermediaries and publishers, emphasizing tailored regulations for different platform types. There were also suggestions to revisit the definition of intermediaries, considering the evolving nature of platforms and emerging technologies like generative AI. There were also concerns raised about vague legal language and its potential misuse, advocating for more precise legislative drafting to reduce ambiguity.

Key Takeaways

- Unified Framework Needed: Streamlined regulations with reduced overlap among regulatory bodies are essential for effective content governance.

- Clarity in Roles: Clear definitions for intermediaries, publishers, and content creators are critical to address accountability and liability in a nuanced digital landscape.

- AI as a Double-Edged Tool: While AI aids content moderation, its limitations necessitate careful oversight to ensure ethical and unbiased implementation.

- Inclusive Policy-Making: Broader stakeholder engagement, particularly involving independent creators and fact-checkers, is vital to develop balanced and equitable policies.

6. Workshop 4: Intersection of Competition Law and Artificial Intelligence

Panellists

- Ms. Modhulika Bose, Partner, Chandhiok & Mahajan,
- Mr. Kazim Rizvi, Founding Director, The Dialogue
- Dr. Sachin Kumar, Asst. Prof, University of Delhi
- Mr. Sandeep Aurora, Group Director & Head Public Policy and Government Affairs

Moderator

Saksham Malik, The Dialogue

Summary

The workshop examined the dynamic interplay between AI advancements and competition law. The session underscored the challenges posed by AI's integration into various sectors, the regulatory frameworks required to address these issues, and the role of open-source AI in democratizing access to technology.

With respect to the emerging Competition Concerns in the AI Ecosystem, panellists looked at the proposed Digital Competition Bill that aims to address critical AI-related competition concerns. It was pointed out that dominant AI players benefit from proprietary data loops, reinforcing their market position and raising barriers to entry for competitors. The same entities operate across multiple layers of the AI supply chain. For example, Google integrates AI across all its products, leading to concerns over potential abuse of market dominance. However, current investigations have found no definitive evidence of abuse. Partnerships between AI startups and large technology companies create asymmetries, limiting opportunities for smaller players.

Data availability was a critical challenge for AI development and regulation. Startups face hurdles in accessing high-quality data sets, while regulators grapple with ensuring open and fair access to data. Licensing agreements for datasets could stifle competition, especially if copyright laws are amended to restrict access. Such limitations may disproportionately affect startups and small businesses.

Countries in the Global South face unique obstacles such as scarcity of Compute Power because of which resource-intensive AI models are inaccessible to many, hindering innovation. There was dependence on Proprietary Systems because a lack of resources limits the ability to develop independent AI ecosystems.

Open-source AI was seen as a critical enabler for democratizing access. By providing open access to data, algorithms, and platforms, open-source AI can foster innovation, much like the Unified Payments Interface (UPI) has transformed India's financial system. Open-source initiatives can address the power imbalances created by proprietary AI systems.

Regulatory Considerations were also discussed, especially the need for Frequent Interventions. This is because the technical domain of AI evolves rapidly, necessitating consistent regulatory updates to stay relevant. Regulatory measures were also seen likely to encounter resistance from industry players, emphasizing the need for balanced policies. It was felt that India can draw insights from the EU AI Act to craft its regulatory framework, tailoring it to the unique needs of the Indian market.

The discussion on India's AI ecosystem spoke about the fact that India is home to 200 Generative AI startups focusing on large language models (LLMs) and innovative applications. Ensuring these startups have access to data and compute resources will be vital for sustaining growth and competition. The next wave of innovation is expected to emerge from AI applications tailored to specific industries and socio-economic challenges. It was also felt that restrictive copyright laws may limit access to datasets, creating bottlenecks for startups and emerging players. Any legislative amendments must balance intellectual property rights with the need to foster competition.

The workshop highlighted the need for thoughtful regulation to ensure a competitive, inclusive, and innovative AI ecosystem in India. By addressing challenges related to data access, competition, and open-source development, India can position itself as a global leader in AI while fostering equitable growth and innovation across sectors.

Key Takeaways

- Digital Competition Bill: The Digital Competition Bill should address challenges like data feedback loops, vertical integration, and partnerships with dominant players to promote fair competition in AI markets.

- Democratizing access to technology: Open-source AI can democratize access to technology, addressing the scarcity of resources and enabling inclusive growth, particularly in the Global South.

- Regulation: Regulatory frameworks must strike a balance between fostering innovation and addressing competition concerns, with frequent updates to reflect the rapid evolution of AI technologies. Learning from global frameworks like the EU AI Act can help India craft a robust regulatory environment that empowers the AI industry while safeguarding market integrity.

- Datasets: Access to datasets remains a cornerstone issue for both startups and regulators. Policies must ensure open and equitable access without stifling competition.

7. Main Panel 2: Resilient Internet Infrastructure

Panellists

- Prof. Rekha Jain, Senior Visiting Professor, ICRIER (online)
- Shri G Narendranath, Joint Secretary, National Security Council Secretariat
- Mr. Osama Manzar, Founder, Director, DEF
- Ms. N.S. Nappinai, Advocate, Supreme Court & Founder, Cyber Saathi

Moderator

Mr. Anupam Agrawal

Summary

The moderator opened the session by posing fundamental questions raised by the Secretary, MeitY, regarding India's Internet infrastructure. He highlighted issues such as the sufficiency of fiber optic networks, data center capacity, power reliability, and routing hygiene. He also introduced broader questions about market readiness for data localization and key factors needed to create a resilient Internet ecosystem.

Prof. Rekha Jain emphasized that resilience starts with measurement: "What cannot be measured cannot be managed." She called for institutionalized data collection to track resilience metrics, citing the Pulse Internet Resilience Index as an initial step. However, the absence of contextualised parameters like digital literacy for financial payments, etc. make the index

incomprehensive. Institutionalizing the collection of resilience data, such as recovery times for subsea cables and the operational status of infrastructure, was proposed as a critical first step.

Mr. Osama Manzar described resilience as infrastructure that is available, functional, strong, and reboundable. However, he pointed out gaps and the disconnect between ambitious plans and their ground-level implementation, citing examples such as the BharatNet project. While the data may show uptime in cases of connectivity to gram panchayats for example, functionality at the ground level remains poor. There exists a cultural problem in translating infrastructure investments and Internet resilience initiatives (which are aplenty) into meaningful outcomes.

Mr. G. Narendranath discussed building resilience by design given the multiple players of infrastructure. He focused particularly on undersea cable systems, where if diversity in connectivity routes, investment in repair ships and cable depots, and adherence to best practices along with minimal permission/regulatory bottlenecks is followed, the mitigation of risks would be possible. He noted the Indian government's commitment to work in that direction and highlighted one of the consultancy projects undertaken with TCL. He advocated for a priority-based approach to identifying and then restoring essential services during breakdowns.

Prof. Jain added that integrating standards and processes into infrastructure creation, maintenance, and recovery is also a way to ensure resilience in infrastructure.

In the discussion about how known issues are to be managed, particularly in repair and maintenance of infrastructure from a policy perspective, Prof. Jain called for policy initiatives which are required, such as use of Gati Shakti portals for fibre mapping, laying dark fibre with basic infrastructure developments such as highways, etc., and incentivizing for an Active PPP Model to strengthen infrastructure implementation.

The moderator noted that there is a skill gap at the grassroots level, particularly in reconfiguring routers/networks during Internet shutdowns. Panellists emphasised the need for decentralized DNS resolution closer to the consumer and human expertise at the local level for sustainable infrastructure resilience such as connectivity experts offering support for breakdowns or engineers at gram panchayat level.

To a question on the role played by Starlink in Internet connectivity in remote & underserved areas, speakers noted that India possesses enough domestic capabilities to handle its connectivity and system/infrastructure needs. Satellite-based solutions like Starlink could complement existing systems in remote areas but there were also not as many unconnected areas. However, India's regulatory framework for space communications needs to be liberalized to harness this potential. Regulation wise schemes such as PMWANI are empowering

grass-roots distributed connectivity but integration at higher level and better implementation is important.

The threshold for defining Internet Resilience and allied core activities also came up for discussion. Resilience was discussed in terms of availability, redundancy, and the ability to restore services swiftly. Participants emphasized integrating resilience into both existing and new infrastructure, with thresholds defined by parameters such as uptime, redundancy, and service recovery timelines.

Key Takeaways

- Data: There is a need for systematic measurement and data collection for defining and assessing a resilient Internet. Requirement to collect and institutionalize resilience data, such as recovery times for subsea cables and operational status of infrastructure.

- Design: Resilience is about availability and functionality. Focus on creating, designing, maintaining, and restoring infrastructure to ensure quality of service is maintained.

- Cultural challenges: Address cultural challenges that hinder the translation of ideas and schemes/initiatives into meaningful connectivity.

- Integration: Integration of infrastructure, such as laying fiber along with other basic infrastructure, through a cohesive national fiber plan is required.

- Standards: Put in place proper standards and processes for ensuring functionality and effectiveness of Internet infrastructure and restoration during breakdowns.

- Inclusivity and Accountability: Bring stakeholders together to develop an accountability-based index to measure and enhance Internet resilience as a concrete outcome of the discussion.

8. Workshop 5: The Evolution of Harm in the Digital Age: Blurring Lines Between Online and Offline Harms and Violence

Panellists

- Allan Asher (Virtual Speaker) – Vice President, Competition & Consumer Policy, Australian Risk Policy Institute
- Jyoti Vadehra, Lead, Digital Safety & Online Wellbeing, Centre for Social Research India Secretariat, ACTS
- Vakasha Sachdev, Senior Manager (India), Government Affairs & Communications, Logically
- Preethi Rao, Director, Partnerships & Outreach, LEAD at Krea University

Moderator

Pranav Bhaskar Tiwari, Senior Programme Manager, Platform Regulation and Gender & Tech, The Dialogue, Secretariat, ACTS

Summary

Pranav Bhaskar Tiwari introduced the topic which emerged from the study facilitated by the Dialogue to understand what is tech-facilitated gender-based violence and how to tackle it. In a survey with 4000 respondents, 72% of the women recognized GBV as opposed to only 58% of men. 80% of the respondents experienced GBV but did not report citing 50% of the reason was lack of trust in the reporting mechanism and 30% feared retaliation or further harm. This resulted in the establishment of the alliance for cyber trust and safety, a grassroots institution that tackles digital trust and safety challenges in the global South.

Vakasha Sachdev said that there was a need for understanding what is considered as harm. Is it only when someone gets attacked physically or should we look at a larger concept of harm? The Internet has made it possible to have opinions shared very rapidly and at a greater scale. Earlier there was a brief period of vacuum between a message and action; now need to look at how fast that information vacuum gets filled.

Alan Asher said that a nuanced understanding was needed in public safety. In Australia, he said that the restriction or elimination of certain communities could prevent them from harm but can create its own set of harms for people, especially marginalized communities, who rely on social media to make their linkages and see it as a place of safety and comfort. Tradeoffs had to be

made and public policy makers had to bear this in mind. While platform services want to maximize their penetration, the government would have to respond to different interest groups.

Preethi Rao defined gender based violence as human rights violation which causes physical, sexual and mental harm to women. When it manifests on a technology facilitated system, it is the harm caused by access to information and communication technology (ICT). The scope expands multifold as there are no physical, time or space boundaries. It mirrors the physical in terms of marginalization as women have lesser access to technology and they are more open to harm and may not even understand what it is. Technology facilitated GBV does not mean one has to be online nor is it limited to women.

Jyoti Vadehra said they had engaged with over 500,000 individuals with the help of educational institutes. Their robust student ambassadors programme left them with a sense of agency for themselves as well as for tackling online safety issues with their peers, escalating issues with CSR with regular training for peers as well as other communities. The student ambassador programme also engaged with senior citizens groups as well as children in hospitals.

Data was difficult to get. Qualitative data was more likely to bring out nuanced insights. On paper, India had sufficient regulations and redressal mechanisms but it was necessary to see how it could be made more effective. One option was the Safe Harbour protection. Agreeing that the EU's Digital Services Act (DSA) had some solutions, those could not be immediately transposed to India. However, they offered an option for conversation with the Indian regulators. Some playing around with AI would also be necessary regarding content moderation by platforms. Reference was made to the Australian Online safety Amendment Social Age Minimum Age law passed recently. There was concern there about the radicalization of youth through social media messages and the increasing levels of anxiety among young people. However, it was not sure if such measures of restriction would work. The trend now was to avoid huge sets of prescriptive rules, and instead impose an overarching or umbrella duty of care on the service provider. It was necessary to improve the ability to respond to harmful narratives. Where technology plays a role is to look at it as a larger problem rather than looking at it as a number of individual pieces of content. Also necessary is to look for things like counter speech and behavioural pattern recognition like coordinated behaviour online.

Questions related to what was being done in terms of identifying newer kinds of cyber violence, on how privacy could be enhanced and how to become student ambassadors. Response from the panellists was that there were peer to peer forums where sharing of newer forms of evolving threats came to play. The study titled #Break the Silo by the Dialogue identifies new and emerging forms of online harms. With reference to privacy, while many technological advances were harmful, homomorphic encryption was given as an example of a system that enables analytical operations on encrypted data without ever compromising privacy Information. It uses complex AI methods to be able to do that.

Key Takeaways

- Collaboration: Collaborative efforts and a phased approach for capacity building, creating awareness among various stakeholders and the general public regarding GBV
- Reporting: Better reporting mechanisms for GBV
- Clarity in definitions: Essential for people from the industry who are experts in this field to work together with the government to ensure that there is clarity in definitions
- Converse with government: Find ways to start conversations with the government on how to improve the user harm concept

9. Workshop 6: Enabling Open-Source AI Access for the Global South

Panellists:

- Aalekh Sharan, Head Enterprise AI & Strategy, Sarvam Al
- Sunil Abraham, Director Public Policy, Meta
- Swapna Sen, DGM Data Science, AreeteAl
- Shivaramakrishnan R Guruvayur, Research Advisor, CERAI

Moderator

Ms. Meghna Bal, Director & Head of Research, Esya Center

Workshop Summary

Mohit from Esya Centre made a presentation touching on three key themes: the potential for AI to engender progress towards social and economic objectives, the current state of AI access and availability across nations and the potential role that open source AI can play in bridging some of these access and availability gaps. AI has the potential to accelerate progress across a number of SDGs. For example, in the case of SDG 4 which relates to education, AI can potentially personalize educational offerings for children ensuring no one is left behind and for SDG3 which relates to health, improved diagnostics predictive analysis can improve health outcomes. The Stanford AI vibrancy ranking which ranks countries based on their investments,

infrastructure and AI governance is largely dominated by nations from the global north. India, UAE and China are the only three nations from the global South. It was necessary to see where India stood and what needs to be done to bridge emerging gaps and what is the potential of Open AI to level the playing field between the north and south. It is also noted that India, Brazil, Indonesia and Nigeria are among the top contributors to open source projects on GitHub.

There is a lot of promise potentially with open source AI but it also entails access and security tradeoffs and hence the question is whether open source AI can be developed responsibly. To a question on the definition of open source AI, why it matters and its potential, Mr Sunil Abraham delved into history to explain the origins of the four freedoms and the open source movement beginning in 1989 allowing for a fifth freedom: freedom to make proprietary derivative works. He touched upon the creative commons licences by Prof Lawrence Lessig and the taking away of some of the freedoms (such as non-commercial use and no derivative works). He then spoke about the problem of not being able to decide whether underlying copyrighted works should be given under open data licence or creative commons licence in the case of LLMs.

Swapna Sen spoke about her experiences in issues related to taking AI to the rural economy. When they created the first prototype with some dummy data it came out well but during deployment, they had to face serious challenges because the rural dairy sector where they were working was unorganised and unsystematic and hence the basic dataset was absent. They tried making the farmers record the milk and it persisted only when the team was present. They were also using only one sensor. Unless there was a good database built through documentation, true customized solutions to the customers was not possible.

Another issue that was pointed out was that in the global South digital infrastructure systems are not of the same standard as in the global North and to actually get any value out of AI infrastructure which is Tech enabled is essential. Data was the backbone for training big models. Unless there was access to the kind of infrastructure where one could build on top of these models or fine tune them to a good enough degree, India would always be behind in this respect. It was also necessary to know what the data is that the model has been trained on, the biases included, the sources of the data etc.

According to Aalekh Sharan, digital public infrastructure rights arise out of economic necessity. Economic externalities disappear when you assign property rights and so the reason any public infrastructure exists is because it is hard to define property rights and get an ROI for certain projects. The core idea of DPI was always to make sure that private Innovation can exist at the layer where it is better. How does any DPI actually encourage private innovation? Data is at the bottom of the AI stack and the government should play a key role in making more data available so that Innovation can happen at the model layer as well as the application layer. Data layer is where the government can play the biggest role and build reference architecture but let

other people benefit from that data as well. The government needs to focus on the data layer, getting all the data sets together that are unlocked, and find out other ways of making data available as well as curated in different languages and build reference architecture.

Mr Guruvayur said that while he was not a fan of not sharing the training tool and other things, he understood the reason because training a model with a billion parameters like Llama requires a lot of resources. Sharing weights would have a multiplier effect on the startup ecosystem and research ecosystem. The training required to train people on this is also quite different. At the government level, we are still talking about whether India should build our own foundation model and still looking at the external world on how we are going to build our foundation models and when we should build skill levels for that. Also while using external models, we are inheriting the biases that have crept into the system.

A major challenge in the indigenously developed models that focus on vernacular languages is that the challenge is not only about the vernacular but also so many variations and nuances in the dialects, the accents and pronunciation with the same word having different meanings in the different regional pockets. It is essential to create a knowledge base of traditional knowledge. Governments could play an important role in creating a distributed system of the learning process and aggregating this on a single platform and liberally distributing this among the researchers, the academicians and the startups so that there is a free flow of knowledge and communication system is reinforced through the process.

Public procurement also plays a key role in encouraging innovation because of the size and scale that we have in government data and the number of services provided by the government. However, typical government procurement setups are geared towards existing large system integrators. However, the architecture should not be specified in the RFP. The scope should be broader than just getting system integrators, people should be encouraged to compete at the model layer.

While everybody loves to report about model accuracy, it was also necessary to incorporate some of the responsibility and safety toolkit outputs upon the models. It would also be good to consider the AI value chain as a whole and then see how different actors within that value chain can be accorded responsibility.

Key Takeaways

- Data: The government needs to focus on the data layer, getting all the data sets together that are unlocked, and find out other ways of making data available as well as curated in different languages and build reference architecture.

- Vernacular focus: Challenges in indigenously developed models that focus on vernacular languages include variation in dialects, accents, pronunciation and vocabulary

- Public procurement: Public procurement plays a key role in encouraging innovation

- Safety and Responsibility: In addition to accuracy, responsibility and safety toolkit outputs should be incorporated in the models

10. Workshop 7: Responsible AI Innovation

Panellists

- Ms Prachi Bhatia, Public Policy Manager, Meta

- Ujjwala Jeremiah, Government Affairs and Public Policy Manager, Google

- Saurabh Singh, Leader, Technology Policy, Amazon Web Services

- Venkatesh Krishnamoorthy, Country-Manager, BSA- The Software Alliance

Moderator

Shashank Mohan, Associate Director, Tech & Society, CCG-NLUD

Summary

The workshop explored the challenges and opportunities in fostering responsible AI innovation, focusing on India's AI mission and aligning industry practices with governance needs. Discussions highlighted the role of R&D, skilling, compute infrastructure, and collaborative frameworks in advancing AI responsibly and inclusively. Google showcased investments in infrastructure and skilling, such as AI Career Certificates to train 10 million Indians. Initiatives in agriculture, disaster management, and flood forecasting highlighted sector-specific AI applications. Meta's collaboration with India's AI Mission and initiatives like GenAI COE and YuvaAI aims to skill 1 lakh youth in open-source AI technologies, localize AI solutions, and foster innovation through tools like Meta's LLM. AWS detailed its three-layer support—AI compute infrastructure, foundational models, and application services—alongside free skilling programs, cost-effective certifications, and startup acceleration initiatives offering cloud credits and mentorship.

Speakers highlighted the importance of responsible AI Governance and spoke about frameworks to balance innovation with risk mitigation, emphasizing ethical guidelines, transparency, and inclusivity. BSA's 12-pillar approach stressed mitigating risks like privacy and bias through fairness, transparency, and robust risk management.

Open-Source AI, promoted as a tool for democratizing access to AI has enabled startups and innovators to build sector-specific solutions.

Skilling and Workforce Development was essential to prepare an AI-ready workforce, with programmes targeting developers, startups, and students. For ensuring AI Safety and Security, it was necessary to adopt safety guidelines like watermarking, guardrails, and transparency tools to ensure responsible deployment of AI applications. Discussions on AI sovereignty emphasized localized expertise and safe AI ecosystems, with examples like Google's Project Vani supporting Indian farmers. Challenges such as copyright for AI-generated works and determining accountability across the AI stack were identified as critical areas requiring legal clarity and tailored frameworks.

A number of important themes were also discussed. These include AI education initiatives targeting students, professionals, and underserved communities to bridge the digital divide, public-private partnerships to align AI development with India's unique societal needs, such as agriculture, healthcare, and local languages, open source AI to lower barriers and foster indigenous innovations, alongside increased access to compute infrastructure for R&D, technology-neutral, sector-specific frameworks to mitigate risks while fostering innovation and ways and means of addressing the digital divide to ensure marginalized communities benefit from AI-driven transformation. Companies shared experiences with integrating responsible AI principles and overcoming language barriers, skilling gaps, and compute constraints. Also discussed were framework enforcement techniques such as how ethics councils, internal reviews, and public reporting ensure AI principles are adhered to.

During the Q&A, panellists addressed concerns about widening inequalities due to AI, advocating for capacity-building initiatives and inclusive innovation through academic collaborations and Centers of Excellence. Responsible AI principles formulated by the platforms, with companies employing ethics principles, red-teaming, and sandboxing to ensure adherence with ethical practices was also suggested. Importance of collaborative measures like watermarking and adherence to global ethical standards (e.g., White House commitments) was highlighted to address issues like misinformation or misuse of AI.

Key Takeaways

- Collaborative Ecosystems: Partnerships across industry, government, and academia are critical for advancing AI innovation responsibly.

- Localized AI Development: Sectoral focus on healthcare, agriculture, and finance ensures alignment with India's specific needs.
- Skilling at Scale: Mass skilling initiatives by Meta, Google, and AWS are creating an AI-ready workforce in India.
- Open Source as a Catalyst: Promoting open-source AI models like Llama accelerates democratization and innovation.
- Strengthened Frameworks: Adoption of ethics and authenticity standards like C2PA ensures robust governance across AI applications.

11. Workshop 8: Trust and Safety in Online Gaming: Navigating the Opportunities and Challenges of a Digital Playground

Panellists

- Sunita Mohanty, Chief Investment Officer, Invest India
- Marie-Claire Isaaman, CEO, Women In Games (Remote)
- Sharmila Ray, Child Protection Specialist, UNICEF
- Gowree Gokhale, Legal Counsel
- Devhuti Bakshi, Director – Public Policy, EGF

Moderator

Priyanka Gulati, Partner, GT Bharat

Summary

The moderator began the session by saying that the gaming market in India was worth US$ 2.2 billion (2023) and there were 500 million users. She said that the number of internet users were going to increase exponentially and safety was a huge concern. The question was that even today, with so many tools and internet and data available, why was it so difficult to tackle violence in online gaming?

Sharmila Ray said that at the first interministerial diplomatic mission on violence prevention mitigation response that took place in Bogota, Columbia, one of the primary issues that kept coming up was that the space of online violence is largely not understood and quite a few governments made pledges on violence, especially online violence. Global evidence-based programs that are proven to be effective for both impact and scale, they have three strategies: parental understanding / caregiver support; response and support services such as judiciary, law enforcement officers, social service workers, counsellors etc., and network in schools and colleges. Reported data available through the National Crime Report Bureau does not feature online gaming, not because it is not an issue but because people do not recognize it as such other than people who are specifically working in this sector. A knowledge practices survey for UNICEF with young people and adolescents indicated that gaming did not feature as a perceived threat anywhere. The problem was that there was no understanding yet of gaming's impact, how to regulate it or how to talk about it and hence it was important to collectively start building the discourse around gaming.

Sunita Mohanty said that there were many parents who really don't know what's really happening behind the facade of the internet. They only know that they have to track the internet use of their children; it is out in the open, they may think there is a bit of violence and leave it at that. Hence, outside of putting in enforcement mechanisms, the most important thing is educating parents to understand what is really happening in an app which could be anything from bad content to loss of money, loss of data, malware coming into the system, harassment due to exposure to bad content and so on. For big players, brand is all important and hence they are careful but in the case of smaller companies that are profit driven, the brand is not important and they care only for money. Safety by design was important where the entire customer life cycle–the gamer's life cycle–was examined to see what were the various mechanisms by which abuse could get propagated in the application, as a result of which, what are the mechanisms by which you design to prevent abuse from happening. It was necessary to have a policy to ensure that badness can be reported and users could be removed etc., and also building an age-appropriate framework.

Gowree Gokhale pointed out the existence of multiple Indias in terms of literacy levels and understanding, many especially in rural areas who do not know how to use a mobile phone and hence it was necessary to be inclusive. There were also different types of gaming bringing along different types of issues. In the Indian context, that understanding was not there and there was no targeting of issues such as violence. There were laws against obscenity meaning that some content could be objected to but a similar thing for violence was not there. Part 3 of the IT Rules talk about age rating and age gating but it was not there for gaming which was a lacuna. She also referred to a recent Supreme Court judgment that looked at the role of intermediaries and their obligations in reporting offences under POSCO. Gaming platforms are missing in this conversation and they need to contribute to the entire effort in the Indian context. She also pointed out that some high courts have held that skill gaming is a state subject. In her view, something which is on the internet and each state having a different set of laws with not an

overarching law was a huge lacuna. The other issue was whether something is a game of skill is left to the lawyers. The other lacuna was about KYC in the context of children and the government was contemplating verifiable parental consent under the data protection law.

Devhuti Bakshi pointed out the many vulnerable groups that need protection. The Real Money Gaming (RMG) industry in India has voluntarily put in a lot of user protection features which are in the product itself as built app features. These user protection features are so exhaustive that no user or no player can circumvent it. There are multiple layers of checks and protection. The member companies of RGF had a team to track problematic gaming behaviour. She also brought up the point of what steps gaming companies could take to create an environment that feels safe for all players, especially all genders. She also spoke about the other gaming segments such as casual games and video games that had a heavy minor user base who were in need of protection mechanisms. While the games did not appear harmful, they were addictive which meant excessive hours of playing and neglect of studies or other activities.

For inclusivity, panellists said they would need to start with strong policies and a clear code of conduct that address harassment head on and build social contracts into their games. Players should agree to behave respectfully before stepping into the game world. Enforcement had to be visible showing toxic players real consequences. Games should feel inclusive from ground up to make sure that the avatars and any other design in the game reflects all identities including diverse characters because that makes everyone feel more welcome. It was important to create safe zones in multiplayer game spaces where players could interact without fear of harassment. Most important was educating players about respectful communication. While big studios had made progress with codes of conduct, positive play charters and reporting tools, smaller studios found it difficult due to resource constraints.

The discussion also touched on how violence and other activities were visually stimulating that it does things to the brain. Attention span now had come down to 9 seconds, mainly because of the way brains were developing and responding to stimuli. UNICEF had multisectoral as well international collaborations. With the LEGO group, they have initiated Responsible Innovation in Tech for children (RITEC) in partnership with others, with the project's primary objective being to develop, with children from around the world, a framework that maps how the design of children's digital experiences affects their well-being, and to provide guidance as to how informed design choices can promote positive well-being outcomes. During Covid, a lot of children got access with parents who were not aware and hence the consent issues fell short.

Among the things that could go wrong in gaming were included cyber bullying, financial exploitation (abuse of parent's credit card on gaming platforms), violence linked incentives, stalking, harassment, online predators, grooming gangs, inappropriate content, identity theft, hacking malware, phishing, unauthorised data collection of children, money laundering, radicalization etc. An important point was that parents should take responsibility for educating their children, create a safe space for them to come back and talk to them about their

experiences on the internet. The parent has to have the ability to find a way to report this if the child is a minor or training a child to report this if they are adults. Reporting had to be made simple and transparent and the system had to be such that it built trust.

Also important was law enforcement training: for a law enforcement officer to do a thorough review and investigation of something that happens online. Also important was understanding the difference between gaming and gambling. The gambling industry should have some kind of user protection in place as well as grievance redressal mechanisms.

Key Takeaways

- Education: Parental education was a top priority along with response and support services and networking of schools and colleges
- Reporting: Reporting made safe and transparent, with a system that built trust
- Understanding threat: No understanding yet of the threat due to gaming's impact, how to talk about it or how to regulate it
- Definitions: Need to understand the difference between gaming and gambling
- Safety by design: Safety by design to see the gamer's entire life cycle to identify various mechanisms by which abuse could get propagated in the application

DAY 2 (10 Dec 2024)

12. Main Panel 3: Role of Multistakeholder Community to build a digitally empowered India

Panellists

- Mr. T Santosh, Scientist F, IG Division – MeitY
- Ms. Anita Gurumurthy, Executive Director, IT for change (Online)
- Mr. Dhruv Dhody, IAB Member
- Ms. Ihita Gangavarpu, Youth IGF

Moderator

Mr. Amitabh Singhal, Director, ICANN Board

Summary

The panel delved into the challenges and opportunities of adopting a multistakeholder model tailored to India's diverse socio-economic and digital environment. The discussion emphasized collaborative efforts among government entities, academia, civil society, the technical community, and private sector stakeholders as essential for equitable and effective Internet governance.

The session began with an overview of India's progress in Internet connectivity, which highlighted the significant milestone of 900 million citizens online, while stressing the urgent need to connect the remaining 500 million individuals. The multistakeholder approach was presented as central to bridging this gap and advancing digital empowerment within democratic frameworks.

Advancing Multilingual Internet Domains: One perspective highlighted the integration of Internet domains in 22 official languages, emphasizing that such progress was achieved through extensive consultations with linguistic experts, technology specialists, and international organizations. Institutional mechanisms were underscored as vital to ensuring inclusive Internet governance aligned with India's digital aspirations.

Ensuring Equity in Governance: The importance of prioritizing inclusivity and equity in multistakeholderism was discussed, advocating for processes that ensure public interest remains central to digital policies. Emphasis was placed on institutionalizing civil society participation in decision-making frameworks and recognizing digital rights as fundamental to India's constitutional principles.

Technical Community Engagement: A key focus was on the role of the technical community in shaping governance policies. It was noted that engaging technical voices in early-stage discussions often leads to more robust outcomes. Enhanced participation in global standardization bodies was encouraged, with a call for greater involvement of Indian professionals to contribute unique insights and address regional challenges.

Youth Participation and Representation: The need for youth engagement in Internet governance was highlighted, advocating for targeted initiatives to empower young leaders. Recommendations included fostering academic partnerships, establishing funding mechanisms for youth participation, and creating opportunities for hands-on involvement in global and national governance platforms.

The session addressed questions on cyber fraud, emphasizing the importance of community awareness and coordinated responses involving government and technical entities. Discussions also cantered on the necessity of continuous funding and institutional support to enhance India's presence in global forums. Participants agreed that structured funding mechanisms and democratized representation processes are critical to achieving sustained progress.

In conclusion, the panel underscored that India's success in Internet governance hinges on consistent, inclusive engagement across all stakeholder groups, driving progress toward a digitally empowered and equitable future.

Key Takeaways

- Institutionalized Governance: Establish formal mechanisms for multistakeholder engagement to ensure equitable representation and effective decision-making.
- Capacity Building: Invest in academic partnerships, funding models, and training programs to enhance participation from youth, academia, and civil society.
- Inclusive Representation: Strengthen grassroots engagement to bring diverse voices into national and global Internet governance discussions.
- Public Interest Focus: Ensure digital policies prioritize transparency, equity, and inclusivity, aligning with foundational rights and democratic values.
- Global Integration: Promote active participation in international standardization bodies to influence global policies and incorporate India-specific perspectives.

13. Workshop 09 : Leveraging Digital Public Infrastructure for Digital Inclusion

Panellists

- Maya Sherman, Expert & Project Co-Lead OCED-GPAI
- Isha Suri, Research Manager, CIS
- Abhishek Venkateswaran, National Project Officer, UNESCO

Moderator

Kamesh, Senior Program Manager, The Dialogue

Workshop Summary

The workshop focused on how digital public infrastructures can be leveraged better for digital inclusion with the intersectionality of artificial intelligence. India has pioneered in this journey and has made some transformations such as financial inclusion and social security access etc., albeit with its own set of drawbacks. The question to the panellists was to look at how new technologies like artificial intelligence can help in the delivery of DPI and how DPI can help AI.

Maya Sherman said that we're seeing so many services and products that are connected to AI that it was almost imperative for us to see how we can make DPI better. DPI as technology was also an independent entity and sometimes it felt as if an overload of AI driven services was being created. Undoubtedly AI integrated into DPI enabled better personalization, especially in ensuring last mile connectivity in the rural areas. But the discussions on security were becoming more prevalent. In many ways we use the AI thinking that perhaps the security layer is not so significant. Thinking forward, using AI to enhance the security layer of DPI, to predict harms, to detect fraud and as more data goes digital, ensuring it is protected, would be interesting though it appears like a paradox and calls for a more collective form of innovation.

Isha Suri's take was that it was necessary to look at the entire AI stack while looking at DPI as too often only the applications layer was focused on missing out on there being other components such as hardware, workers etc. We often don't look at how entrenched the hardware layer is within this entire ecosystem with 70% of the market currently being controlled by the hyperscalers and sometimes we often think that it does not matter but competition cannot happen if there is a natural monopoly. A question to ponder over while designing a DPI is where is the public in our imagination? If it is to be serviced by private players that have locking mechanisms with higher regress fees that are privately controlled, how much can we expect that to service the public at large. Hence there is a need to shift our approach from relentless computing to conditional computing. In India, oftentimes we tend to give in to tech solutions where we feel that technology perhaps will serve overall aims. However, it was important to first look at the problem and see if the tech solution is necessary or will work. Putting a layer of AI over technology had to be principle based. It was not possible for digital sovereignty's sake to compete with big tech at their game and try to outpace them in investments, capacity, energy waste etc., because ultimately the public will be at a loss. A lot of guardrails have to be built and unless a lot is done with DPI governance, problems will magnify or multiply exponentially. Using technology for delivery of Digital Services or delivery of

services in general should ensure that public interest is enshrined within. For public interest technologies public values have to be at the heart of design.

Abishek Venkateswaran quoted Nandan Nilekani saying “Digital Public Intelligence will make India AI use-case capital”. He said that the DPI approach in AI could be very useful in data management and the principles for DPI development agreed in the G20 such as fairness, security, modularity and interoperability were essentially a gamut of responsible data collection practices. When principles of fairness and security are embedded in data exchange systems, then one automatically moves to a stage of AI development which is responsible by design. India has not been focused on creating its own LLMs being more centric with focus on building community wise data and building and solving for specific problems. He saw the move towards a space where small language models and use case-based AI Solutions will be a little more robust.

The panellists also emphasised that each country had a different need and the needs of India are specific to India and the things that India brings to the table are different. This is important because though DPI as a concept sounds universal, there are some fundamental principles that are quite country sensitive. Technology, they said, was not context agnostic and each country had its own needs. Most LLM models are trained on European languages or English and they gave false results more often than not for Indian languages which was a huge risk if used as a content moderation tool. It could tackle a problem but it could also, when inaccurate, have a disproportionate impact on people’s free speech.

Reliance on regulation was not the way forward nor did top down regulation work. When there was too much focus on the letter of the law, there would be grey areas that would be exploited by different entities and hence it was necessary to look at other frameworks. But that required capacity building. When states have talked about regulation, they have been stalled by big tech and self-regulation has also not worked. It had to be understood that one could not get on to the regulatory bandwagon unless the risk was identified and there was definitional clarity. A compliance based approach with incentives would work better in the case of startups or small companies.

Infrastructure for the public-at-large had to be co-developed and not only the policy makers but the public, especially their rights, also had to be represented.

There was also a reference to the UN Secretary General’s road map for digital cooperation where Open AI systems had been within the definition and scope of digital public goods. The Digital Public Goods Alliance (DPGA) has also been working with UNICEF for creating a community of practice for how ethical AI can integrate with open source initiatives within the framework of the DPG standard.

AI has not really disrupted monopoly; it has only entrenched dominance and that is because compute capacity is largely concentrated in the hands of three players, 70% of the market is owned by them and they use it at their will. Instead of trying to outbid big tech at their game and trying to emulate what they do, it was necessary for sustainable development of technology and use tech only when there is a real need and not give way to tech solutionism.

Key Takeaways

- Holistic view: Need to look at the entire AI stack while looking at DPI: applications, hardware, human interface etc
- Country-sensitive principles: Though DPI as a concept sounds universal, there are some fundamental principles that are quite country sensitive
- Public at the core of development: When looking at public infrastructure, public has to be at the core of what is being developed; public has to co-develop it and it has to be a representative process
- Sustainable development of technology: Use tech only when there is a real need and not give way to tech solutionism as costs of exclusion will be too high

14. Workshop 10: Open Source AI: Powering India's Ethical and Inclusive Digital Future

Panellists

- Major General (Dr.) Pawan Anand, AVSM, (Retd.)
- Nish Perera, First Secretary, Australian High Commission
- Prof. (Dr.) Chetan Arora, IIT Delhi
- Sunil Abraham, Director Public Policy, Meta
- Dr. Aparajita Bhatt, Associate Professor & Director, Centre for Cyber Laws, National Law University Delhi

Moderator

Mr Dhruv Garg, Indian Governance & Policy Project

Summary

The workshop underscored the need for a balanced approach to open source AI, combining global collaboration, localized innovation, and strategic governance. It was emphasized that inclusive and transparent frameworks, combined with ongoing investments in AI capability, are crucial for leveraging AI responsibly for India's socio-economic and national security goals.

Conceptualization of Open-Source AI: The panelists underscored the fragmented understanding of open-source AI. Unlike traditional open-source software that emphasizes transparency, modifiability, and community-driven development, open-source AI often refers to access to pre-trained model weights and limited datasets. This distinction poses unique challenges in terms of replicability, interpretability, and trustworthiness. Transparency, collaboration, reusability, and decentralization were identified as core characteristics of open-source AI. However, inherent risks such as cybersecurity vulnerabilities, attribution of liability, and ethical considerations were acknowledged as significant hurdles.

Policy Landscape and International Collaboration: The discussion highlighted India's dual-pronged approach of fostering innovation while ensuring national security. Panelists emphasized the importance of enabling a regulatory environment that prioritizes public welfare and equitable access to AI technologies. The need for globally aligned yet locally adaptable frameworks was stressed, with calls for India to actively participate in international forums and initiatives while safeguarding its strategic interests.

Security and Liability Concerns: Panellists discussed pressing issues such as data misuse, algorithmic bias, and the heightened risks of cybersecurity breaches associated with open-source AI. These risks necessitate robust frameworks to address accountability and liability at every stage of the AI lifecycle. It was agreed that prematurely imposing strict liability might inhibit foundational research and innovation. Instead, a balanced and layered approach to responsibility was suggested, spanning developers, deployers, and end-users.

Development Models: The debate around leveraging global AI models versus developing indigenous capabilities took center stage. Panellists advocated for adopting a hybrid strategy: utilizing offline models to ensure data sovereignty and security, while leveraging online models for efficiency and global interoperability.

Strategic Use Cases and National Security: Open-source AI's applications in military and national security domains were extensively discussed. Potential use cases included intelligence, surveillance, reconnaissance (ISR), predictive maintenance, and autonomous systems for

tactical operations. The importance of strategic self-reliance in AI development was emphasized, with panellists cautioning against over-reliance on external systems due to security risks such as data poisoning and compliance dependencies.

Global South's Role: Panellists explored how open-source AI could serve as a catalyst for the Global South to address gaps in compute power and data accessibility, thereby empowering these regions to participate actively in global AI innovation.

Key Takeaways

- Open Source AI Redefined: Open source AI differs from traditional open source software, emphasizing transparency, reusability, and decentralized innovation while addressing unique challenges like model validation and liability.

- Governance Over Regulation: A governance-first approach ensures AI innovation remains inclusive and beneficial while minimizing risks, avoiding overregulation that could hinder progress. Regulatory mechanisms should encourage, rather than hinder, technological progress.

- Inclusive AI for India: Skilling programs and localized solutions are essential to bridge the digital divide and ensure AI's benefits reach underserved populations.

- Strategic Sovereignty: India must balance leveraging global open source models with building domestic AI capabilities to secure autonomy and address national security concerns.

- Collaboration and Accountability: Multi-stakeholder collaboration across government, industry, and academia is vital, alongside frameworks that assign layered accountability to all actors in the AI lifecycle. Strengthening international people to people collaborations while maintaining local adaptability is essential for ensuring inclusive, responsible, and ethical AI development. Multilateral efforts should prioritize shared values and equitable outcomes.

15. Workshop 11: AI Governance for India's FinTech Sector

Panellists

- Abhishek Varshney, Sahamati
- Sugandh Saxena, CEO, FACE
- Shehnaz Ahmed, Senior Resident Fellow, Vidhi Center for Legal Policy
- Vikas Kanungo, Senior Consultant, AI & Digital Transformation, The World Bank

Moderator

Sameer Gahlot, NIXI

Summary

The moderator began with a brief description of the session. He said that the concept of financial inclusion had evolved from doorstep banking and banking correspondences to the use of ICT with more than 10 billion transactions a month with UPI playing a key role acting as the backbone of digital payments. He then introduced the panellists.

Sugandh Saxena, speaking about her work said that like any industry body, their role was around regulatory engagement and dialogue. Having been recognised as a self-regulatory organization (SRO), they also were into setting standards for the industry and enforcing them. Their industry data and research helped in terms of customer experience and their challenges which helped in navigating the industry. The unique part was an SRO for a vast non-regulatory sector which is also very diverse.

Shehnaz Ahmed leading the law and tech research at the Vidhi Center for Legal Policy worked with different government stakeholders, primarily State and central government departments and ministries as well as financial sector regulators on various areas of legal reforms especially in the digital economy space. Their research has focused on AI governance and they have formulated the fact that more context specific sectoral specific guidelines are required because of how AI is evolving and because the penetration of AI in different sectors is different as are the use cases and the risks.

Abhishek Varshney said their efforts were towards building an account aggregator ecosystem which is the third layer of India stack and establish it in the ecosystem. They worked as a bridge

with policy makers and regulators on one side and on the other side with market participants. Their focus is towards bringing in account aggregators for financial inclusion.

Vikas Kanungo said they serve as a knowledge bank bringing in expertise from multiple countries, academic institutions and International forums to the client governments who wish to either regulate or deploy AI or generative AI for Effective Public Service delivery.

The leapfrog growth of India's Financial landscape was because of the use of DPGs and DPIs, said Abishek using an example of booking an Ola to boarding the flight, to understand the number of DPGs used in normal life. In the India stack it was three layers that talked about your identity, payment and data. For last mile connectivity, three pillars could be identified. To start the financial journey, it was necessary to get the population to start using bank accounts for which Aadhaar became a key enabler. Once people had bank accounts, they started engaging with financial services and payments, which were solved by UPI. Once people started transacting, they generated digital footprints, the third layer now was how to enable people to use this data to get financial services. DPGs as a principle being interoperable, scalable and modular became a key enabler for leapfrogging financial growth apart from other macroeconomic factors including the Digital India initiative of the MeitY. The web of DPIs and DPGs has helped contribute to this growth that we are now seeing.

Shenaz said that Niti Aayog had brought out responsible AI guidelines which were overarching and while there was a sort of a global consensus on what the guidelines would look like, we have not as a country taken a stance in terms of how AI governance should look like. For India, it was necessary to take cognizance of the socio-economic factors such as the digital divide, the startup economy, the different policy objectives such as consumer protection etc. From her viewpoint, there were three things to be considered: actionable frameworks, a coherent approach (considering multiple financial regulators) and understanding what we are trying to regulate.

Sugandh said that in general the feedback from industry was positive about AI with a lot of use cases emerging. It was a force multiplier as seen from catering to people who are traditionally not banked or underbanked. The downside was that it was for now all in English and so there were consumer complaints when people were not able to understand terms and conditions.

Vikas said that the World Bank was doing projects such as creating a regulatory sandbox which are more on the DPG side. Finance was one of the sectors most evolved in the deployment of digital technologies. They were also looking at sectoral sandboxes for which challenge funds were provided to startups who want to come into the sandboxing environment and build something, for example, in agriculture such as alternate ways to provide finances rather than just based on CIBIL score. RBI was also doing hackathons giving entrepreneurs to innovate things that they cannot do in a normal regulatory environment.

Abhishek who is from a lending background said that from a practitioner's perspective, they were privy to how fintech had been an enabler in terms of getting financial inclusion. But many companies were very demographic, doing segmented approaches based out of particular demographies, which could create problems as the companies expanded to other geographies. Also, apart from getting bank accounts, now we need to move towards a stage when people start engaging with other financial products and AI was only one of the key enablers that could make it possible. Certification of models powered by AI was necessary to ensure that they support advisory services reaching the bottom of the pyramid especially with the diversity of personas requiring support. It was necessary to design frameworks keeping the user in mind, right from the time a product is conceptualized and developed.

The panel agreed that a participatory AI approach was needed especially in high risk systems such as fintech and healthcare where stakeholders were not only the developers but include domain experts, civil society organisations, consumer protection groups and the use of the correct data sets and taking in preventive measures. Thus, a risk based approach where the right questions are asked when you are deploying and the context in which it is being applied make sense. In terms of laws, if AI is seen as one of the digital technologies, then multiple frameworks are available and hence no new regulatory frameworks are necessary. In India the focus currently is on accessibility and providing basic services to all and hence security takes a backseat when accessibility is the ultimate objective for different stakeholders. It was necessary to check the quality of data sets – historical data sets that were most used often came with their own biases. It might not be possible for developers to also account for all possible situations. While there were probably not many ways of eliminating such issues, they could be mitigated. New applications going through sandboxing and user acceptance testing was helpful to sort out most issues.

Key Takeaways

Current AI Adoption in FinTech:

- AI is being used for lending, customer risk profiling, and enabling financial inclusion.
- Tools like UPI, account aggregators, and digital public infrastructure (DPI) are central to India's fintech evolution.

Challenges:

- Data biases in AI algorithms could perpetuate discrimination (e.g., biases in lending and insurance decisions).

- Lack of a unified AI governance framework in India leads to fragmented oversight by various sectoral regulators (e.g., RBI, SEBI).

- High costs and complexity hinder small businesses and startups from adopting secure AI systems.

Opportunities and Innovations**:**

- AI facilitates financial inclusion by catering to underserved populations and enabling localized solutions.

- Regulatory sandboxes allow startups to innovate within controlled environments, supported by initiatives like the World Bank's challenge funds.

Ethical AI Frameworks**:**

- Emphasis on participatory AI approaches to include diverse stakeholders (e.g., developers, domain experts, and consumers) in AI system design.

- Calls for "explainable AI" to ensure algorithmic decisions are transparent and accountable.

Policy and Regulation**:**

- India's approach focuses on responsible AI guidelines rather than prescriptive regulations, emphasizing flexibility and innovation.

- A need for coherent and actionable frameworks to address privacy, fairness, and transparency in AI systems.

Recommendations:

- Promote public awareness and industry collaboration to address biases and ethical risks.

- Develop sector-specific policies that align with broader digital transformation goals

- Prioritize sandboxing and testing environments to refine AI models.

16. Workshop 12: India's IoT Revolution: Secure, Smart, and Skill-Ready

Panellists

- Dr. Leena Vachhani, Prof. IIT Bombay
- Mr. Pranav Singh, IDEMIA
- Dr Suresh Chandra, Scientist G, IT & eGovernance Group, STQC

Moderator

Ms. Ihita Gangavarpu, Youth IGF India

Summary

The moderator introduced the subject and described the Internet of Things as all of these devices that are talking to each other, communicating to each other via the internet . They are gathering data, backend processing for analytics and there is some kind of an actuation that could happen right there. Examples include smart refrigerators, smart baby monitors and smart cities where there are multiple verticals for air pollution monitoring, water quality monitoring, energy conservation; other cases include meditech, edutech, industries that are IoT powered. There has been an exponential increase in the number of IoT, a lot of opportunities have come and challenges have emerged predominantly with respect to security and the fragmentation of standards. The questions to be discussed by the panel included security aspects, labelling and certification mechanisms, critical use cases and skill sets required.

Dr Leena Vachhani, Prof. IIT Bombay spoke about the key IoT enabled critical use cases that were driving transformation across various sectors in India. Looking at the critical sectors, the most emerging one is the smart grid as everyone requires power, the railway network, transportation sector, smart cities, smart villages, the industrial sector where entire factories are getting automated. Security plays the most important role in all these and that is where there is the need for standardization. R&D or the research developers who are working on the new technologies as well as from the user side who is going to use it should be aware about the security assurances. Looking from an industry perspective, predictive maintenance is one big use case–when the predictive maintenance of your vehicle is getting automated and imagine if someone or somebody has hacked that information and changed the data in the background, it will create a huge problem.

Dr Suresh Chandra said that in the Indian ecosystem, the problem was we try to always buy the cheapest. Because of that we are able to introduce products of low quality and consequently, high vulnerability. Across the border, a company may have to follow regulations as there are testing standards and certifications required. But because of the lack of regulation in India, they are able to get away. But now there is a change as some certification requirements for IoT have come in and it is mandatory for government or public procurement. IoT may be placed anywhere, capturing images or air quality or whatever, but at the end, it is all data. Which brings up the question of how is the data generated, preserved, transmitted from the IoT to the server, how is stored in the server, who will use that data and so on. Working in silos, you may be testing one component but not the rest. Not bothering about the data left out results in opening up loopholes.

Mr. Pranav Singh explained that an important thing is that the end point devices had a very tiny operating system, very tiny firmwares, which could be hacked any time. The opportunity for this is remote management, which is the motivation for IoT. If everything is going to be remotely managed, then there is a lot of risk that someone can trap your device and some can hack the identity of your device. So our problems include our awareness of endpoint device security. Hence it was necessary to adopt security by design. It was only in 2022 that ISO released IoT Standard ISO 27400, followed by 27402 was for device baselines, 27403 for analysing security and privacy risks and controls to be implemented and 27404 for labelling. In the 27000 family, they start with risk analysis. At the Ministry they looked at all these and found that some critical factors were missing and hence came up with a scheme which covers not only consumers but also industry and supply chain security as well. Security continues to be a major challenge because the critical part of any ICT device including IoT devices is the chip and these are not yet manufactured in India.

Dr. Leena said on skill sets and strategies needed to empower the younger generation in India to effectively engage with the Internet of Things (IoT) ecosystem, understanding the IoT ecosystem requires knowledge of the physical devices that collect data, the communication layers, data analytics, security, and process analytics and hence it is no more engineering or software disciplines. Rather, a basic understanding of all components is necessary before advancing to more specific areas of expertise in IoT, such as advanced security measures and database protection. Existing IoT courses in universities globally provide introductory knowledge but may not delve deeply enough into securing and managing IoT systems comprehensively. At the Technology Innovation Hub, they were building core structures as well as advanced layers as well as working on skills for maintaining and servicing IoT products already in the market.

Key Takeaways

- IoT Overview and Use Cases:
    - IoT devices communicate and share data via the Internet for analytics and actuation.
    - Common applications include smart homes, cities, healthcare, agriculture, and education.
- Challenges
    - Security risks such as data breaches, unregulated device usage, and insufficient standards.
    - Lack of awareness about data privacy and security among consumers.
    - Dependence
- Solutions
    - Emphasis on security by design, robust encryption, and compliance with emerging standards like ISO 27400.
    - Implementation of labeling schemes (e.g., security levels from L0 to L5) for consumer awareness.
    - Policies restricting procurement of devices with critical components from border-sharing countries
- Skill Development
    - Multi-disciplinary training covering IoT hardware, data analytics, security, and maintenance.
    - Specialized courses and research initiatives to prepare youth for IoT-related roles.
    - Upskilling for traditional trades like electricians and plumbers to handle IoT-enabled systems.

- Consumer Awareness and Quality Control
    - Need for public education on risks associated with cheaper, uncertified devices.
    - Importance of testing infrastructure to ensure quality and security of IoT products.

17. Main Panel 4: Building Green and Sustainable Internet

Panellists

- Dr. Deepak Mishra, Director & CE, ICRIER
- Ms. Shilpi Kapoor,CEO, Barrier Break Technologies
- Mr. Manoj Misra, Director Regulatory Affairs, Indus Towers
- Mr. Suresh Krishnan, IAB Member (online)

Moderator

Ms. Ambika Khurana, Chief Regulatory & Corporate Affairs Officer and Chief External Media; CSR Officer, Vodafone Idea Limited

Summary

The explored pathways to foster sustainability within the digital ecosystem, emphasizing environmental, financial, and social dimensions.

Dr. Deepak Mishra provided a broad framework for evaluating digitalization in India, focusing on sustainability alongside connectivity, innovation, and protection. He highlighted that while India is the 3rd largest digital economy globally, it ranks 9th in sustainable digitalization among G20 nations. Challenges such as low adoption of green digital technologies and minimal R&D investment were discussed. Examples included the potential for digital public infrastructure like UPI to reduce environmental costs through dematerialization.

Mr. Suresh Krishnan elaborated on emerging technologies like IoT, AI, and smart grids to optimize energy use and reduce carbon footprints. He underscored the importance of addressing embedded carbon costs, such as those in manufacturing devices, by incorporating lifecycle

carbon accounting and extending device longevity. He advocated for voluntary standards to drive change while cautioning against overreliance on non-inclusive processes in global standardization bodies.

Ms. Shilpi Kapoor focused on the intersection of digital accessibility and sustainability. She stressed that inclusive technologies, initially designed for people with disabilities, could drive sustainability by optimizing resources. Examples included voice-enabled technologies and predictive typing. She also highlighted systemic barriers in accessibility and the digital divide, urging frameworks that prioritize inclusivity to build a more equitable Internet.

Mr. Manoj Mishra provided insights from the telecom sector, highlighting efforts toward green energy adoption, including solarization of towers. He emphasized the need for balanced regulations that promote both environmental and financial sustainability. E-waste management emerged as a pressing concern, with discussions pointing to the importance of circular economies and incentivizing the use of sustainable practices in production and disposal.

During the open discussion, participants emphasized involving youth and underrepresented groups in discussions about sustainable Internet practices. Questions raised about the political nature of global standard-setting processes were addressed, with panellists advocating for increased inclusivity in participation. Discussions on India's COP26 goals raised concerns about overreliance on international climate finance. Panellists advocated for domestic solutions and private capital mobilization to achieve sustainability targets.

Summing up, panellists called for immediate action at individual, industry, and policy levels. They urged stakeholders to focus on localized solutions, responsible technology use, and inclusive frameworks to ensure a greener and more accessible digital future.

Key Takeaways

- India’s Digital Progress and Challenges: India ranks high in digitalization but needs significant improvement in sustainable practices like green tech adoption and R&D investment.

- Emerging Technologies for Sustainability: IoT, AI, and lifecycle carbon accounting can optimize resource use and reduce the carbon footprint of digital systems.

- Inclusivity and Accessibility: Designing for people with disabilities fosters broader sustainability and reduces the digital divide. Accessibility must be a priority in building an inclusive Internet.

- E-Waste Management: Circular economy frameworks, digital product passports, and extended product life are essential to addressing e-waste challenges.

- Policy and Participation: Active participation in global standards and fostering youth involvement are critical. Localized policy reforms and private capital mobilization should drive climate finance solutions.

18. Valedictory Session

In the valedictory session, Mr Anupam Agarwal gave a brief recap of the sessions held over the two days of the India IGF 2024. He said there was a good diversity among speakers with 32 women and eight joining online. He showed pictures of the various sessions. Apart from the inaugural session, there were four main panels and twelve community led workshops.

Some of the key messages that could be collated were as follows:

- Need to build an Internet Resilience Index to bring in accountability
- Need for a National AI literacy mission
- Prioritize inclusivity in the design phase of digital platforms to ensure sustainability and sensitivity
- Streamline regulations with reduced overlap among regulatory bodies for effective content governance
- Policies must ensure open and equitable access without stifling competition
- Need to create guidelines to protect children online especially in online gaming
- Bring stakeholders together to develop a national position in an equal footing
- Create opportunities for diverse and relevant stakeholders to participate in national delegations
- Need to have a transparent, readily accessible and easy reporting mechanism for reporting online crime.
- Increased focus on Green Internet technologies
- To participate and find a seat as well where discussions are happening as the key to impact the future technological roadmap.

Amrita Choudhury led the discussion on how to improve the India IGF since it is a volunteer-based community. One suggestion was to move it out from Delhi and perhaps hold it in some college so that more young people could join in. Another suggestion was to make it like a webinar to enable people to join in online. People sitting all over the country could participate, sharing it extensively with specific colleges of technology of policy interest and social interest.

While moving out of Delhi was a good idea, it should be taken to a city where a vibrant group from diverse backgrounds including political, bureaucratic, social, academic and economics would be able to participate. If it were to be held in Delhi, it should not be when parliament is in session because speakers from the government get pulled out and it was important for the government to know what the community was doing. A participant requested that the sessions be held over the weekends as they had classes and exams during weekdays. Another suggested an increased number of proposals for workshops from different stakeholders. The four main themes were curated by the theme committee comprising about 25 members coming from different stakeholders groups. Though about 48 workshop proposals came in, only twelve could be chosen due to time constraints. A suggestion was to have more information on the website with regard to proposals and a better website before the next meeting and use allied websites to promote content.

Mr Devesh Tyagi proposed a formal vote of thanks. He said that a lot had been learnt from previous sessions which had been incorporated in this event. He appreciated the way the sessions were conducted and thanked all colleagues from NIXI, BIF etc and mentors who helped in organising the event. He thanked all the sponsors who had enabled the conduct of IIGF 2024.

Appendix I: Summary of Points made by Mr. S Krishnan, Secretary, MeitY, in his inaugural address

Mr S Krishnan, representing the Ministry of Electronics and Information Technology, highlighted several critical points regarding Internet governance, focusing on India's unique position as a digital leader and the challenges it faces:

1. Historical Perspective and Ubiquity of the Internet:
    - The Internet has evolved from a novelty to an indispensable part of everyday life, with India boasting 955 million users.
    - Its integration into governance, communication, and commerce underscores the need for resilience and security.

2. Resilient Infrastructure:
    - Mr Krishnan emphasized the need for robust Internet infrastructure, noting challenges with informal connectivity (e.g., unstructured cable networks) and dependence on mobile data.
    - Investing in broadband and fiber optic networks is essential for long-term resilience.

3. Data Localization and Cybersecurity:
    - The importance of data localization to safeguard critical information, especially financial and utility-related data, was stressed.
    - Mr Krishnan underlined the need for cybersecurity to keep pace with increasing reliance on digital platforms.

4. Power Supply for Digital Expansion:
    - With AI and data centers driving future Internet needs, ensuring sufficient power supply is critical. Collaboration with energy ministries is underway to address these demands.

5. Governance Challenges:

    - Issues such as domain name misuse and the need for Know Your Customer (KYC) protocols were discussed.

    - The evolving responsibilities of Internet intermediaries, particularly in the AI context, require further examination.

6. Global and National Engagement:

    - India’s role in global Internet governance forums like the IGF and WSIS was highlighted, emphasizing the need for a unified multi-stakeholder strategy.

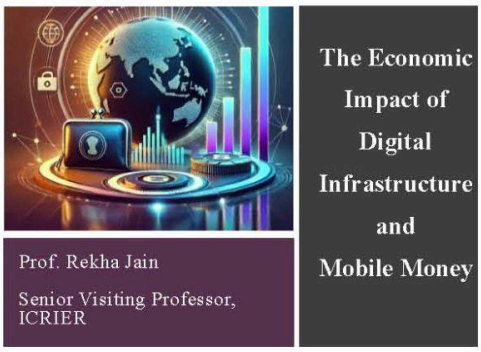
    - The promotion of multilingual Internet access in Indian languages was seen as a step toward inclusivity.

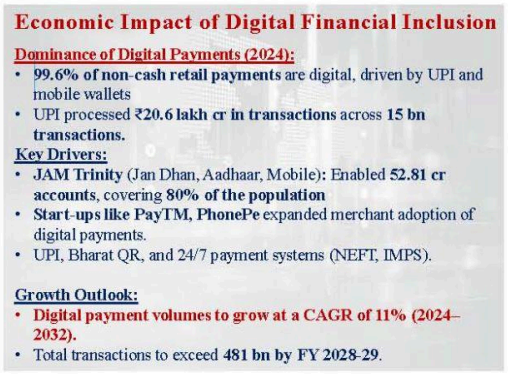
7. Key Themes for Deliberation:

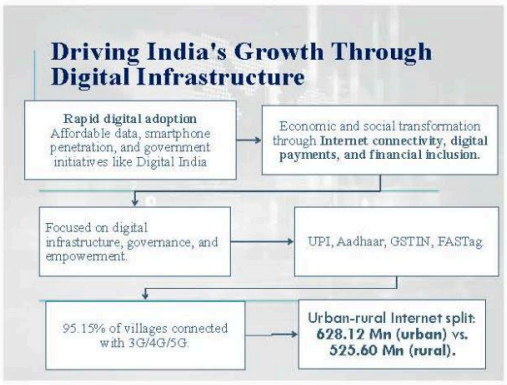
    - Sessions on AI, resilient Internet infrastructure, green and sustainable Internet practices, and the role of multi-stakeholder governance were identified as priorities.

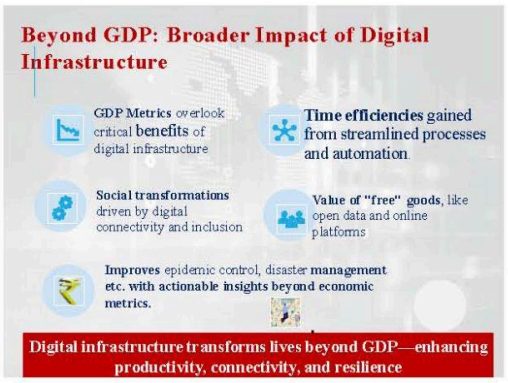
Mr Krishnan concluded with a call for collaboration among stakeholders to strengthen India's Internet governance strategy, aligning with its growing global influence in the digital space.

Appendix II: Presentation made by Prof Rekha Jain, Senior Visiting Professor, ICRIER, in the inaugural session









Context

To analyze the **economic impact of digital infrastructure and mobile money** on India's GDP and development trajectory.

Relevance:

India's digital economy contributed significantly showcasing the transformative potential of mobile and broadband penetration.

Mobile money usage, digital transactions, and broadband speed improvements drive financial inclusion and economic resilience.

Significance:

Highlights untapped potential in rural areas, underdeveloped fiber broadband, and smartphone adoption.

Provides insights for policy-making to accelerate digital adoption and bridge urban-rural divides.

Economic Impact of Digital Infrastructure (2019-2024)

Digital Infrastructure's GDP Contribution (2023-24):

Mobile Broadband	• 10% penetration increase adds 2.44% GDP • $149 bn (2020), $137 bn (2023)
Fixed Broadband (FBB):	• 10% penetration increase adds 1.63% GDP • $101 bn (2023) $139 bn (2024)
Speed	• 1% increase adds **0.015% GDP growth** • Broadband speed increases contributed **$559 bn (2023)** and **$324 bn (2024)**.

Investments in 5G, fibre broadband, and speed improvements are critical levers for driving economic growth and digital inclusivity

Evaluation Framework for Mobile Money

- Based on the **GSMA Global Adoption Survey on Mobile Money**, which evaluates the socio-economic impact of mobile money adoption across multiple regions
- GDP is modeled as a function of Fixed Capital, Labor, Human Capital, and Digital Infrastructure and Services, including mobile money and broadband adoption.

Approach:

- Econometric modelling addresses the potential **endogeneity** between mobile money adoption and GDP growth.
- Analysis captures **network effects** and **critical mass impacts**, where adoption drives exponential economic benefits.

Impact of Mobile Money Users (MMU) on GDP

Growth of MMU (2016-2023):

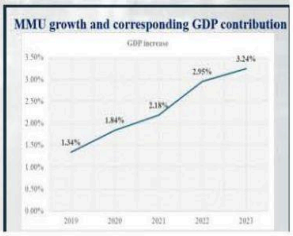
•MMU increased from **10 million (2016)** to **800 million (2023)**.

•GDP contribution grew from **1.34% (2019)** to **3.24% (2023)**, reflecting a **76% increase in GDP impact.**

Critical Mass and Network Effect:

•GDP increases significantly after MMU reaches a threshold.

•Incremental GDP impact stabilizes after a 30% MMU increase.



Joint Impact of MMU Growth and Transaction Values on GDP

Combined Impact (2016-2023):

- Transaction values per account grew from **$1 (2016)** to **$3000 (2023)**.
- GDP impact increased from **0.46% (2018)** to **4.33% (2023)**.

Insights from Usage and MMU Interaction:

- Usage contributes **0.14% to 2.70%** GDP growth (2018-2023).
- MMU and Usage together drive **significant GDP impact**, showing synergies.

Policy Recommendation

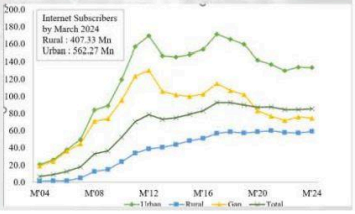
- **Enhance Digital Infrastructure**
  - Accelerate **fiber deployments** through streamlined Right of Way and PPP models.
  - Invest in rural high-speed Internet to bridge the **speed gap**.
- **Boost Internet Speeds**
  - Deploy **5G faster**, promote **Wi-Fi proliferation** (e.g., PM-WANI), and unlicensed **6 GHz and 60 GHz spectrum bands**.
- **Strengthen Financial Inclusion**
  - Policy incentives for **mobile money adoption** and usage expansion through innovative start-up ecosystems.
  - Strengthen infrastructure for financial inclusion and digital payment adoption to further boost economic participation, especially for SMEs and underserved communities..

India's Telecom Growth (2004-2024)

Significant Growth: Mobile and digital penetration surged post-2010, driven by affordable data prices and increased competition.

From a mere **7% in 2004** to **85.7% in 2024**, India's telecom penetration highlights a remarkable digital transformation!

Urban-Rural Gap: Although narrowing, the rural penetration still lags significantly behind urban areas.



Economic Impact Evaluation Of Digital Infrastructure

Broadband's Economic Contribution:

- Increased penetration improves access and participation in the digital economy.
- Enhanced speed boosts user experience and adoption, driving economic benefits.

Quantitative Impact (Based on ITU Study):

10% Increase in Broadband Penetration:

- Fixed Broadband: 1.63% GDP growth (Asia-Pacific).
- Mobile Broadband: 2.44% GDP growth (Asia-Pacific).

1% Increase in Speed : Adds 0.015% GDP growth.

Empirical Framework for Assessing Mobile Money's Impact on GDP

Equation 1: Establishes the relationship between **mobile money adoption** and GDP

$$\log(GDP_{it})=\beta 0+\beta 1\log(K_{it})+\beta 2\log(L_{it})+\beta 3 schooling_{it}+\beta 4 Fixed\_BB_{it}+\beta 5 Mobile\_pen_{it}+\beta 6 MM\_pen_{it}+\mu_i+\theta_t+\epsilon_{it}$$

Equation 2: Explores how **sophisticated mobile money services** and higher transaction values drive **economic growth.**

$$GDP_{it}=\beta 0+\beta 1\log(K_{it})+\beta 2\log(L_{it})+\beta 3 schooling_{it}+\beta 4 Fixed\_BB_{it}+\beta 5 Mobile\_pen_{it}+\beta 6 MM\_pen_{it}+\beta 7 MM\_pen_{it}\times transaction\_val_{it}+\mu_i+\theta_t+\epsilon_{it}$$