MINISTÈRE
DE L'ÉCONOMIE,
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REVUE DE PRESSE SECTORIELLE NUMERIQUE

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En bref

NUMÉRIQUE :

- Le marché indien des jeux mobiles devrait passer de 1,8 Mds USD aujourd'hui à 6-7 Mds USD en 2025.
- 80 % des paiements numériques réalisés en Inde au troisième trimestre 2021 l'ont été depuis des smartphones de marques chinoises.
- L'acquisition de Future Retail par Reliance Industries reste en suspens suite à une décision du tribunal arbitral de Singapour.
- Selon la *Telecom Regulatory Authority of India*, le nombre d'abonnés à Internet en Inde n'a augmenté que de 1% entre avril et juin 2021, à 834 millions.
- Quels acteurs privés bénéficieront de l'initiative indienne sur les données de santé ?

TÉLÉCOMMUNICATIONS:

- Le retrait de Nokia de l'alliance O-RAN par crainte de sanctions américaines pourrait bénéficier aux entreprises des pays du Quad.
- Malgré les critiques des acteurs indiens, le projet de câble optique sous-marin Kochi-Lakshwadeep a été attribué au japonais NEC.

Revue de presse

1. NUMÉRIQUE

India's mobile gaming industry set to treble in value by 2025: Report

ET Bureau, 05/10/2021

Pune: The size of India's mobile gaming market is set to treble in the next four years, a new report has said, driven by a 500-million-strong digitally native population aged 15-35.

The country is already the world's largest mobile gaming market in terms of app downloads, according to Sensor Tower data, contributing up to 12% of the world's total.

India's mobile gaming market will be worth $6-7 billion in 2025 from $1.8 billion at present, according to the report titled 'Building up the e-gaming ecosystem of India and the influence of smartphones' by Internet and Mobile Association of India (IAMAI), RedSeer and OnePlus. While casual gaming (Angry Birds, Ludo King) is the most popular genre in India, hardcore games like Battlegrounds Mobile India and Free Fire generate four times as much revenue and user engagement.

In a survey conducted on 500 hardcore gamers, about 70% of the respondents said they play 2-5 games in parallel and spend about Rs 230 a month on gaming.

This segment also attracts a large number of spectators, driven by the reach of smartphones that can run high-end games. This alone is a $30-million market at present.

The sector has also been attracting investments, and the industry is expected to generate 60,000 to 80,000 new jobs by 2025.

However, it needs a combination of policy and capability building to drive sustainable growth. The regulatory uncertainty around defining games of skill, gambling and data protection and taxing gaming companies also needs to be resolved.

Given the higher engagement levels, hardcore gamers present far more monetisation opportunities—from spending on game play to investing in high-end smartphones. This is expected to be the fastest growing segment in India, projected to grow by four times in the next five years. The advent of 5G is further expected to boost this space, both for gamers and spectators.

Device manufacturers have led the growth of hardcore gaming in India.

High-end gaming phones have specialised coding systems and original equipment manufacturers (OEMs) are focusing on improving the performance of their phones or launching gaming-specific phones.

Chinese smartphones driving digital payments adoption in India: PhonePe report

ET Tech, 19/10/2021

Four out of five leading smartphone brands used in digital transactions by Indian users are of Chinese origin, with the top two - Xiaomi and Vivo - cornering nearly 45% share of the total customer base in the third quarter of 2021.

The findings are from data released by Walmart-backed fintech firm PhonePe, India's most used Unified Payments Interface (UPI) app. PhonePe processes 45% of all UPI transactions in India, covering 720 out of out of 726 districts in the country. There are about 328 million registered PhonePe users.

Xiaomi had about 80 million customers using the PhonePe app, while it was around 65 million for

Vivo. The third highest share was of South Korean brand Samsung, with nearly 61 million users.

Oppo and Realme had about 42 million and 24 million customers, respectively, using PhonePe, making them the fourth and fifth largest device brands.

The data is representative as other UPI players do not make such disclosures in the public domain.

The development comes at a time when the government has reportedly issued notices to Chinese smartphone brands seeking details on the data and components used in handsets, ET reported, in a move that is being viewed as an attempt to crack down on Chinese device manufacturers.

"When it came to mobile devices, Xiaomi continued to be the most preferred with the highest number of devices in play, with (about) 25% of the user base, with the next largest being VIVO with 20% of the user base," the Pulse report, released on Tuesday, showed.

"However, in an interesting trend this quarter, we also saw Realme, OnePlus and VIVO grow faster than Xiaomi, clocking in growth rates of 17.8%, 17.0% and 11.2% relative to the 6.4% clocked by Xiaomi," it added.

Companies such as Vivo, Oppo, Xiaomi and OnePlus together account for a majority share of the Indian smartphone market.

The report also highlighted that digital payments in India, especially through UPI, grew by leaps and bounds in the July-September quarter.

The total payments value (TPV) of transactions processed grew 23.3% quarter-on-quarter (QoQ) to Rs 9,21,674 crore, while the number of transactions grew by 33.6% to 5.265 billion transactions, the report showed.

According to the report, offline merchant payments grew faster than online merchant payments, registering a QoQ growth rate of 65%, indicating recovery after the second wave of the Covid-19 pandemic earlier this year and the rapid opening up of offline stores.

"The rapid growth we are seeing quarter on quarter is a strong indicator that digital payments are truly penetrating across the length and breadth of the country," said Karthik Raghupathy, head of strategy and investor relations, PhonePe

Geographically, Chandigarh topped the growth charts, with over 50% transaction volumes growth QoQ, while Karnataka and Maharashtra topped the charts in terms of increase in QoQ transactions volume, with both registering an increase of 220 million

Future Retail Must Take Part In Arbitration Process With Amazon, Rules Singapore Court

Medianama, 22/10/2021

In a win for Amazon, an arbitration court in Singapore on October 20 rejected Future Retail's plea to be excluded from the ongoing dispute with Amazon. The court said that Future Retail is a party to the agreements signed between Amazon and Future Coupons and must participate in the arbitration process. As a result of this ruling, Reliance's acquisition of Future Retail continues to be on hold.

Recap: In August 2020, Reliance announced it will buy most of Future Group's retail, wholesale, and logistics business in a deal worth Rs 24,713 crore, but Amazon, which held a 49 percent equity in Future Coupons, the promoter entity of Future Retail, accused Future Retail of breach of contract and slapped it with a legal notice. Amazon said that it had a non-compete-like pact and right of first refusal against deals with competitors like Reliance. On October 25,

Amazon obtained a stay order on the Future–Reliance deal from an emergency arbitrator appointed by the Singapore International Arbitration Center (SIAC). Future Retail filed an appeal with SIAC arguing that Amazon's agreements were with the various promoters of Future Retail and not Future Retail itself and it also filed a petition with the Delhi High Court arguing the emergency arbitrator's order does not have jurisdiction in India. Eventually, the Delhi High Court and then the Supreme Court ruled that the emergency arbitrator's award obtained by Amazon in Singapore can be legally enforced in India. Future Group filed a fresh challenge in Supreme Court against Amazon, and the court stayed all proceedings regarding the Future–Reliance deal for four weeks.

What did the Singapore arbitration center say?

In its order dated October 20, SIAC made "two final and conclusive findings with regard to the three Agreements" signed between Amazon and Future in 2019:

1. Each of the parties is bound by the Future Coupons shareholders' arbitration agreement (SHA) including Future Retail, notwithstanding its non-signatory status
2. The Future Coupons SHA arbitration agreement extends to disputes under the Future Retail SHA and share-subscription agreement.

According to Reuters, SIAC found that the three agreements must be read together, and not separately. "The three agreements were of "composite nature", "wide and comprehensive enough" and the tribunal "has jurisdiction over FRL (Future Retail) in this Arbitration," Reuters reported citing the order.

Apart from challenging on jurisdictional grounds, Future Retail had also asked for a vacation of the order given by the emergency arbitrator in October 2020, but SIAC ruled that the order was "correctly granted" and that Future has "not demonstrated that circumstances have materially changed to justify any change to the EA Award."

In a regulatory filing, Future Retail said: "While the Tribunal has made no final and binding finding on the effectiveness of the substantive provisions contained in the three Agreements, the Company would be deciding on its future course of action based on the legal advise and available remedies in law."

What's next for Future and Amazon?
This SIAC ruling is only the beginning of a long road ahead. Now that the tribunal has ruled that Future Retail is a party to the agreements, it will start hearing arguments on the main case: whether Amazon can refuse the Reliance deal from going ahead. This hearing is expected to begin in the first week of November.

According to sources cited by the Economic Times, Future Group and Amazon are likely to start negotiating an out-of-the-court settlement because waiting for a final verdict from the arbitrator could take years.

The SIAC ruling also gives Amazon more grounds to seek favorable rulings from India's Supreme Court. Amazon has already approached the court seeking an order to stop Future Group companies from convening meetings with their shareholders to seek approval for the Reliance deal. The National Company Law Tribunal on September 28 allowed Future Group to convene these meetings, but Amazon is now asking the Supreme Court to set aside NCLT's decision.

A complete timeline of events
November 2019: Amazon received approval from the Competition Commission of India (CCI) to acquire a 49 percent equity in Future Coupons, the promoter entity of Future Retail, which operates 900 stores in India, including 293 Big Bazaar stores. Since Future Coupons owned a

7.3 percent stake in Future Retail, the deal gave Amazon a 3.58 percent stake in Future Retail.

August 2020 – Reliance Industries announced it will buy most of Future Group's retail, wholesale, and logistics business in a deal worth Rs 24,713 crore.

October 7, 2020 – Amazon accused Future Group of breach of contract and slapped it with a legal notice over the Future-Reliance deal. Amazon reportedly had a non-compete-like pact and right of first refusal against deals with competitors like Reliance Retail.

October 25, 2020 – Amazon obtained an injunction order against the Future-Reliance deal from an emergency arbitrator appointed by the Singapore International Arbitration Center (SIAC).

November 2, 2020 – Future Group urged stock exchanges to ignore Amazon's objections to the Reliance deal saying that the emergency stay on the transaction obtained by Amazon from the Singapore arbitration court had no legal force in India. Amazon later accused Future Group of misleading shareholders and insider trading.

November 7, 2020 – Future Group moves Delhi High Court against Amazon interfering in the acquisition by Reliance arguing that Amazon's agreements were with the various promoters of Future Retail and not Future Retail itself.

November 20, 2020 – Despite Amazon's protest, the Competition Commission of India approved Reliance Retail's ₹24,713 crore acquisition of Future Group's retail, wholesale, logistics, and warehousing businesses.

December 21, 2020 – The Delhi High Court said that while it wouldn't stop the Future-Reliance deal from happening, the court wouldn't interfere with regulators making their own assessment of the legality of the deal.

January 20, 2021 – The Securities and Exchange Board of India (SEBI) gave its conditional approval for the Future-Reliance deal.
March 18, 2021 – A single judge from Delhi High Court upheld the emergency arbitration order obtained in Singapore against Future Group, putting on hold the Future-Reliance deal. The judge upheld that the purchase violated an agreement that was signed between Amazon and Future Coupons, an investor company in Future Retail Limited. The court observed that the Future Group had agreed to give Amazon a veto on transactions like the Reliance Retail acquisition, but failed to hold good to that commitment. The high court also attached the properties of Future Group and its promoters Kishore and Rakesh Biyani and ruled that the company must deposit Rs 20 lakh into the PM-CARES fund, and that company executives must respond on why they shouldn't be jailed.

March 22, 2021 – A division bench of the Delhi High Court stayed the March 18 order. Amazon appeals to the Supreme Court against this stay order.

July 12 – 17, 2021 – The Singapore International Arbitration Centre (SIAC) helda week-long hearing on Future Retails' appeal to the validity of the emergency arbitrator's order.

July 21, 2021 – The Supreme Court began hearing arguments from Future Retail and Amazon.

July 23, 2021 – CCI in a letter dated June 4 accused Amazon of concealing facts and making false submissions in 2019 when it sought approval for an investment in Future Coupons.

August 6, 2021 – The Supreme Court ruled in favor of Amazon by accepting its appeal against the Delhi HC order dated March 22, which let the deal between Reliance and Future Retail proceed. The court held that the emergency

arbitrator's award obtained by Amazon in Singapore can be legally enforced in India.
August 12, 2021 – Future Group filed a Special Leave Petition in the Supreme Court against the March 18 order of Delhi HC, which is yet to come up for hearing. An SLP can be filed against orders which are otherwise non-appealable.

August 17, 2021 – Amazon wrote to the Securities and Exchange Board of India (SEBI) asking the market regulator to withdraw the conditional approval it has given to the Future – Reliance deal.

August 18, 2021 – The Delhi High Court told Future Group that, unless it gets a stay order from the Supreme Court by September 17, the court will implement its single-judge order issued on March 18 restraining the sale of Future Retail to Reliance and attaching its properties

August 28, 2021 – Future Group files a fresh legal challenge in Supreme Court against Amazon.

September 9, 2021 – The Supreme Court stayed all Delhi HC orders in the Amazon vs Future case and asked SEBI, CCI, and NCLT to not pass any final orders regarding the Reliance–Future deal for four weeks.

September 28, 2021 – The National Company Law Tribunal allowed Future Group to convene meetings of its shareholders and creditors for approval of its deal with Reliance. The tribunal refused Amazon's application opposing this.
October 1, 2021 – Reliance extends the deadline to complete the acquisition of Future to March 21, 2022.
October 11, 2021 – Future group firms have convened shareholder and creditor meetings on November 10 and 11 to seek approval to merge the 19 different firms that Reliance is buying into a single entity, Future Enterprises, the Economic Times reported. The firms that have convened meetings include Future Retail, Future Consumer, Future Lifestyle Fashions, Future Markets Networks, and Future Supply Chain Solutions.

October 20, 2021 – SIAC rules Future Retail is party to the agreements signed between Amazon and Future Coupons and must participate in the arbitration process. Separately, Amazon approaches the Supreme Court seeking an order to stop Future Group companies from convening meetings with their shareholders to seek approval for the Reliance deal.

India's Internet Subscribers Only Grew By 1 Percent Between April And June This Year

Medianama, 29/10/2021

India witnessed a sluggish quarterly growth of 1.02 percent in the total number of internet subscribers for the quarter ending June 2021, according to a report on performance indicators of Indian telecom services by the Telecom Regulatory Authority of India (TRAI). The data, submitted by internet service providers, suggested that subscribers have increased from 825.30 million to 833.71 million.

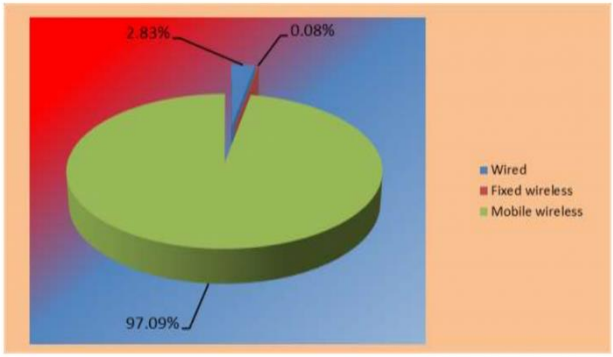
B. Internet Services	QE Jun 2020	QE Sep 2020	QE Dec 2020	QE Mar 2021	QE Jun 2021	%age change over Jun-2020 (12 months)	%age change over Sep-2020 (9 months)	%age change over Dec-2020 (6 months)	%age change over Mar-2021 (3 months)
1) Subscriber's Base (in million)									
A. Wired Internet Subscribers	23.06	24.36	25.54	26.00	23.58	2.24%	-3.22%	-7.68%	-9.31%
B. Wireless Internet Subscribers	726.01	752.09	769.64	799.31	810.13	11.59%	7.72%	5.26%	1.35%
i. Mobile Wireless (Mobile & Dongle)	725.38	751.45	768.99	798.63	809.48	11.59%	7.72%	5.27%	1.36%
ii. Fixed Wireless (Wi-Fi, Wi-Max, Point-to-Point Radio & VSAT)	0.63	0.64	0.66	0.68	0.66	3.51%	2.40%	-0.19%	-3.06%
Total Internet Subscribers	**749.07**	**776.45**	**795.18**	**825.30**	**833.71**	**11.30%**	**7.37%**	**4.84%**	**1.02%**
2) No. of Internet Subs per 100 Population	55.41	57.29	58.51	60.73	61.06	10.19%	6.58%	4.35%	0.54%

It augurs well for India that the number of narrowband subscribers declined from 47.21 million to 40.93 million in this quarter as a rate of 13.30 percent indicates that most people want high-speed internet (>512 KBPS). The remaining 792.78 million are broadband subscribers. Delhi

had the highest number of broadband connections in an urban area with 41.09 million, followed by Maharashtra with 40.38 million, and Tamil Nadu with 39.78 million connections.

The report revealed that 97.09 percent of subscribers were accessing the internet from their mobile devices. "Wired internet subscribers are only 2.83% in total internet subscribers at the end of June, 2021," the report said.

Chart 1.14: Composition of Internet subscription



TRAI said that the number of wired Internet subscribers decreased from 25.99 million from the previous quarter to 23.58 million at the end of June 2021. On the other hand, wireless Internet subscribers increased by 1.35 percent to 810.13 million.

The report provides the emerging macro trends in the provision of the internet to all corners of India. It is important to note whether the internet is being provided to every citizen of India given its prominence in a post-pandemic world.

What is the share of major service providers?

Private internet service providers command a lion's share of the total internet subscriber base at 97 percent in this quarter. Only a measly three percent opt for public internet service providers.

Table 1.30: Internet Subscriber Base and Market Share of top 10 Service Providers

S.No	ISP	No. of Subscribers (In million)	Share (%)
1	Reliance Jio Infocomm Ltd	439.91	52.77
2	Bharti Airtel Ltd.	220.15	26.41
3	Vodafone Idea Limited	136.14	16.33
4	Bharat Sanchar Nigam Ltd.*	25.71	3.08
5	Atria Convergence Technologies Pvt. Ltd.	1.91	0.23
6	Hathway Cable & Datacom Pvt. Ltd.	1.06	0.13
7	You Broadband India Pvt. Ltd.	0.83	0.10
8	ONEOTT iNTERTAINMENT LTD	0.78	0.09
9	Mahanagar Telephone Nigam Ltd.	0.73	0.09
10	GTPL Broadband Pvt. Ltd.	0.62	0.07
Total of Top 10 ISPs		**827.84**	**99.30**
Others		**5.87**	**0.70**
Grand Total		**833.71**	**100**

* Declined trend due to close of dial-up services by Bharat Sanchar Nigam Ltd.

Reliance Jio, in its short stint of two years, has raced to the top with a share of 52.77 percent followed by Airtel. There are a total of 468 internet service providers in the country out of which the top 10 service providers corner a share of 99.30 percent of the total internet subscriber base.

Urban vs Rural

Unlike the telecommunication dip, the rural areas have embraced the internet, increasing subscription numbers to 336.87 million from 322.77 million at the end of March 2021 whereas urban areas saw total subscriptions dip to 496.84 million from 502.5 million. However, only 37.74 people per 100 people have access to the internet in rural parts of the country compared to 105.06 per 100 people.

Maharashtra (71.21 million), Andhra Pradesh including Telangana (64.38 million), U.P.(East) (63.50 million), Bihar (56.81 million), and Tamil Nadu (56.41 million) are the top five service areas in terms of internet subscription.

What is the share of data usage in the ARPU of companies?

Telecom companies are heavily dependent on data usage as nearly 94 rupees out of the total 104.66 ARPU per month (Average Revenue Per User) comes from internet usage. Calls only constitute Rs 14 in the ARPU overall.

Parameter	Jun-20	Sep-20	Dec-20	Mar-21	Jun-21
2. Average revenue Realization per subscriber per GB wireless data (in Rs.)	10.55	10.95	11.01	10.77	9.80

The above table shows that companies offered one GB of data at Rs 9.80 in the quarter which ended on June 30, 2021.

India's digital divide

MediaNama has earlier reported that rural telecom subscriptions decreased by 10 lakh between April to June this year. This is the first time since at least June 2020 that the rural subscriber base has seen a net decrease.

"Rural telephone subscribers decreased from 537.42 million at the end of Mar-21 to 536.47 million at the end of Jun-21 and Rural Tele-density also decreased from 60.27% to 60.10% during the same period," TRAI said in the report.

Schools lack internet access

Only 22.3 percent had access to the internet in the academic year 2019-2020 out of more than 15 lakh schools in India, as revealed by the Ministry of Education report. Moreover, only 37.13 percent of schools had functional computer facilities.

India's skewed internet access highlights its poor digital infrastructure. The country must focus on improving access in rural areas to ensure that the march towards 1.5 billion internet users is not asymmetrical in its demographics.

MoS Rajeev Chandrasekhar claims to top 1.5 billion users by 2023

The figure of 1.5 billion was provided by Minister of State for Electronics and Information Technology Rajeev Chandrasekhar at an Assocham conference. He said that the country will double its internet user base in the next two years with the BharatNet project connecting homes, particularly in rural India.

It remains to be seen what yields of the government's tall claims and whether the project is able to bridge the gap between rural and urban areas.

Who Are the Forces Shaping India's Data Push in Healthcare?

The Wire, 01/10/2021

So what if the United Nations finds that around 36.4 crore Indians are actually very poor? Or, that an otherwise upbeat World Economic Forum concludes that poor Indians will take seven generations to reach the country's mean income level? "Indians will be data rich before they become economically rich," believes tech billionaire Nandan Nilekani.

"To benefit from data, one must be able to access it and assert ownership over it... [they] must be allowed to obtain their data and use it any way they see fit," the co-founder and non-executive chairperson of Infosys Limited wrote, in 2018, in a column for Foreign Affairs.

Just when the Rashtriya Swayamsevak Sangh mouthpiece Panchjanya was attacking Infosys for colluding with 'Naxals, leftists and the tukde tukde gang' to destabilise the nation, Nilekani's dream could not be closer to reality, courtesy of its political wing, the ruling Bharatiya Janata Party (BJP).

This week, Prime Minister Narendra Modi announced the launch of the Ayushman Bharat Digital Health Mission for public healthcare data and earlier, on September 3, the Reserve Bank of India gave the go-ahead to expand the technology behind the mobile Unified Payments Interface into commercial lending activities. Both these platforms depend on a framework for sharing citizens' personal data with governmental and private agencies called the Data Empowerment and Protection Architecture (DEPA).

Monitoring consent manipulation

As described in the first part of this series, while the legislation-backed Data Protection Authority (DPA) for monitoring health and other personal data is yet to take off, the influence afforded to self-regulatory industry bodies over regulating consent managers, such as the finance sector organisation Sahmati, has raised many red flags. Researchers from the Centre for Internet and Society (CIS) warn that the relation between the DPA and such self-regulatory bodies remains unclear.

Sahamati, the non-profit entity whose co-founder Siddharth Shetty worked closely with NITI Aayog in drafting the DEPA, is not the only private entity to have been granted a disproportionate sway over shaping India's personal data management ecosystem. iSPIRT, a technology policy lobby group that was involved in designing India Stack, also appears to have been collaborating on DEPA since May 2019. Shetty, along with Kamya Chandra, who worked on the National Health Stack earlier, are senior iSPIRT 'volunteers' acknowledged in the NITI Aayog's report.

iSPIRT's involvement has raised questions of financial impropriety in the past. Several of its members having worked on governmental projects related to UIDAI's Aadhaar and India Stack before kick-starting their own profit-making ventures which would leverage this public data infrastructure. The group's donors include top functionaries of finance technology and e-commerce giants, such as the Flipkart-owned payments merchant PhonePe, and entrepreneur Vijay Shekhar Sharma's Paytm, which counts the Alibaba Group, SoftBank and Berkshire Hathaway among its investors.

Apart from iSPIRT, the contributions of a digital payment providers' collective called DICE India, and a consortium of lenders, CredAll, which represents HDFC, ICICI Bank, Axis Bank, SBI, and IDFC First Bank, among others, have also been acknowledged in the DEPA report. Other individual 'thought leaders' who contributed to drafting this framework include Justice B.N. Srikrishna, Arundhati Bhattacharya, and Rahul Mathan.

Justice Srikrishna headed the parliamentary committee which drafted the Personal Data Protection Bill. Bhattacharya, the former chairperson of the State Bank of India, has joined the board of directors of Reliance Industries shortly after her retirement. Mathan is a partner at the law firm Trilegal.

The DEPA story ties together a host of financial and political interests who, more often than once, have come together to decide how citizens' personal data will be managed in India. With the range of powerful actors involved, the ideal of an informed, rational Indian deciding for herself how her data will be shared with a series of taps on her smartphone screen seems far from the reality.

Privacy, not a private matter

Academics who study consent and data sharing have termed the DEPA's approach towards personal data as 'privacy self-management'. This has been grafted from the North American context, based on the US health department's Fair Information Practices, adopted in 1973, when concerns first arose over the digitisation of public records. The influential Organisation for Economic Cooperation and Development (OECD) later popularised these as the data governance norm by adopting similar guidelines in 1980. Privacy self-management, as the name suggests, argues that individuals are the best authority to decide what happens to their personal data and ought to be free to trade it for perceived benefits.

Counterintuitively, such a dated approach may prove insufficient in protecting an individual's consent from the threat of manipulation made possible by great leaps in computational abilities since then. The National Law University, Delhi's Sangh Rakshita and Shashank Mohan flagged these concerns when responding to the NITI Aayog's call for public comments on the DEPA draft. The duo, who are part of the law school's

Centre for Communication Governance, argued that "data asymmetries, cognitive biases, consent fatigue, and technological advancements, such as big data analytics" may curtail an individual's ability to know what she is sharing or exercise substantive control over her data.

Hundreds of thousands of data points about an individual may be collected over the course of her lifetime. While each of these in isolation may not reveal much, collating this information using powerful computational tools makes it possible to draw inferences about a person which she herself may not be cognisant of. This may include new information which she is not comfortable sharing. While more granular controls over what data is shared may reduce such a possibility, mandating such controls for every data exchange, paradoxically, may make the exchange even more incomprehensible and time-consuming for the layperson. In effect, it may grant an illusion of control without adding substantive safeguards for individual freedom.

Legal scholar Daniel Solove at the Washington University Law School, writes, "Privacy self-management addresses privacy in a series of isolated transactions guided by particular individuals. Privacy costs and benefits, however, are more appropriately assessed cumulatively and holistically — not merely at the individual level."

He argues that the benefits to society for protecting privacy from encroachment by governments and private corporations extends beyond individual interests, and may form the bedrock of intellectual innovation and material progress. Substantive protections of what personal data is used for, at a societal level, and more public intervention in such spheres, may do far more to protect individual liberties than any check-box on a smartphone.

Who is DEPA really protecting?

Who owns our personal data and how its use has entered public debate recently, in the wake of several international scandals surrounding how advertisers tracking our behaviour online may put this information to use in unforeseeable ways. A British consultancy called Cambridge Analytica's role in tilting the outcome of the hotly contested 2016 US Presidential elections, using behavioural data from five crore social media users, had first set off the alarm. In India, senior Facebook executives Shivnath Thukral and Ankhi Das have come under the scanner for favouring the BJP in the run-up to the 2014 general elections, and thereafter. Das turned in her papers, last year, after a Wall Street Journal investigation raised questions over her role as go-between for the ruling party and the social media monopoly.

DEPA's authors seem to be aware of this churning over how personal data is used. Nandan Nilekani, whose contribution as a 'thought leader' has been acknowledged in the NITI Aayog's report, has warned that the call for anti-trust measures against major technology conglomerates will force governments to rethink their relationship with data. "As they do so, they cannot afford to ignore the one country leading the way in developing a new model of how citizens relate to the Internet, a place that treats digital infrastructure as a public good and data as something that citizens deserve access to: India," Nilekani wrote in 2018.

Creating such a public good in India, however, may not be an entirely selfless concern for the team of technocrats who have moulded the country's personal data protection policies. The financial incentives of major private corporations interested in accessing this data have been more closely aligned with the government's interventions from the get-go than is widely acknowledged.

Nilekani's vision for sharing his fortune with his fellow countrymen has roped in government agencies, repeatedly, over the past decade. An ambitious public digital infrastructure to gather, store and process terabytes of personal information was proposed by a Finance Ministry committee chaired by Nilekani in 2012. This

consisted of Aadhaar, the expansion of formal banking institutions, and putting smartphones with fast internet in the hands of Indian citizens.

India Stack, a number of privately developed software platforms that makes use of the UIDAI database, formed the next layer that would leverage this basic infrastructure. NITI Aayog's DEPA framework, appears to be the final launchpad. Speaking about the Indian path to data empowerment and protection, Nilekani has displayed a keen awareness of what lies at stake in getting this mammoth public project up and running.

"What happened in the United States and Europe was that the new business models with data began after these countries were already rich... Therefore, the business models that emerged were those that used data to sell to you. So globally, in the US and Europe, advertising is a few hundred billion dollar market... In China, the advertising market is $50 billion. In India, the advertising market is just $2 billion. So clearly, those models of business... won't work."

While advertising companies such as Alphabet Inc., which owns the search engine Google, and the social media consortium led by Facebook may have led the charge in gathering citizens' information for private clients in richer countries, this project would not be able to make inroads without active government support in poorer countries such as India.

For this to happen, the government's executive actions may bypass law-making, if necessary, Nilekani has previously argued. Sprawling digital enterprises, such as UIDAI's Aadhaar ecosystem, the Finance Ministry's Goods and Services Tax (GST) Network, or, more recently, the Unified Payments Interface, and the National Digital Health Mission, are harder to wrap up once they have been implemented, even if the law is yet to catch up.

The launch of Ayushman Bharat's Health IDs earlier this week is yet another chapter in the Indian story of how citizen's personal data is being extracted. This is being done through governmental agencies but will also benefit a host of multinational private interests. The objectives of this massive data gathering project are still unclear. But what is certain is that they far exceed the immediate goals stated for each such venture.

Breaking apart data silos and linking them for new yields is not just a technical problem either — it remains connected to the turn in our economic and political sphere, over how citizens can claim rights over healthcare, education, banking, public spaces, and other civic amenities. These are also on the radar for those who have framed the DEPA. How the ordinary citizen or small-scale business enterprise will be able to benefit from this will remain hotly contested. That is another story, and it is far from over.

2. Télécommunications

Will the Quad Tangle with the O-RAN Alliance?

The Wire, 09/10/2021

While China and Huawei may have won the 5G race, all is definitely not lost for those looking to reduce their dependencies on the Chinese telecom infrastructure.

When the Quad was reconvened in the 2020, a significant amount of media attention was given to the military capabilities of the individual states. Many believed it to be a purely military coalition to counter China's aggression in the South China Sea and in the Indo-Pacific region in general. However, the leaders of the alliance have gone on record to clarify that the Quad is open to collaborating on other strategic issues like infrastructure and climate change as well.

Technology was a major area of focus during the first in-person summit held in the United States. The Quad has already created a working group on critical and emerging technologies to

facilitate cooperation and innovation between the states. Semiconductors and 5G were the areas of focus in the technology sphere with an idea of using alternative 5G technology to create a global communications standard.

A 5G deployment and diversification effort is already in the works with the "support and the critical role of Quad governments in fostering and promoting a diverse, resilient and secure telecommunications ecosystem," as mentioned by White House officials.

This is where open radio access networks (O-RAN) and the O-RAN alliance come into the picture.

What is the O-RAN alliance and why did it come about?

O-RAN is a term used for industry-wide standards for radio access network (RAN) interfaces (at radio wave frequencies) that support interoperation between different vendors' equipment and offer network flexibility at a lower cost. The O-RAN alliance was conceived to create the specifications for interfaces and functions used in the O-RAN architecture. It started off as a German initiative to create a global standard for communications that would allow interoperability between the networking software, hardware and cloud systems of different vendors using a single RAN solution.

The alliance works towards releasing new RAN specifications, open software for a common RAN solution and helps its members in implementing, integrating and testing their networks.

With over 29 members and counting, the O-RAN alliance now has both telecom vendors and network operators like AT&T and China Mobile as part of the group. The alliance also encourages the entry of smaller firms in the sector working on specific interoperable solutions in 5G. This is done with the hope of creating a common RAN platform from mixing and matching solutions found across the globe.

Nokia's exit can be a game-changer

Nokia, which was one of the founding members of the O-RAN alliance, recently decided to temporarily halt its work on the O-RAN system due to fears of sanctions by the United States government. This was in response to the federal government in the United States blacklisting several Chinese companies which were officially part of the alliance.

Nokia, on the other hand, was explicit in its statement about how these firms hold considerable clout in the industry and cannot be excluded from the organisation. The representatives from Nokia have stressed the need to access and use the 5G technology owned by these Chinese firms to develop the open RAN system. However, with the threat of sanctions looming for working with the Chinese firms, Nokia decided to put its commitment to the O-RAN alliance on hold.

There is no definitive timeline given by Nokia on the resumption of the O-RAN work. It isn't clear when the United States government will lift the ban on the Chinese telecom companies either. This creates a dilemma for all other members of the alliance as they heavily relied on Nokia as a potential global vendor. This, in turn, opens the door for better collaboration on O-RAN between the Quad members.

The O-RAN is an expanded system benefitting from the contributions of multiple vendors. This means better innovation, additional services, usage of third-party products and no more propriety equipment related to RAN. With Nokia and other Chinese companies out of the way, there would be more market space that can be occupied by the Quad states' companies. Network operators from these states now get a chance to become global suppliers and vendors, helping lower their deployment costs and improve network performance.

One of the founding principles of the O-RAN alliance was to break the oligopoly of the telecom market. While India and Japan have

already stated that they wished to work together on 5G, the Quad summit's focus on technology would help provide better opportunities for the firms located in these states in spearheading the creation of a global O-RAN network for improved communications.

5G's strategic angle needs the O-RAN

For a while now, 5G has remained a field of geopolitical contestation between technically advanced players like the US, Europe and China. With Huawei dominating the market, concerns have been raised on the Chinese state's influence on the company and how Huawei's 5G technology could be used by the State for its own purposes.

Citing the threat to national security, the US has already imposed restrictions on major chip companies from selling critical hardware to Huawei that can be used in manufacturing 5G devices, thereby derailing the installation of Huawei tech in the country. The UK, too, followed suit and has set a timeline for the removal of Huawei equipment from its 5G networks.

With China maintaining a stranglehold over 5G patents and technical standards through its companies, other states are looking to diversify their telecom supply chains.

O-RAN offers a particularly enticing method for those looking to navigate the complexities of 5G networks. It is aimed at ensuring interoperability and clearing the problems that might persist with using different companies' equipment for running 5G networks. This, combined with the strategic importance that 5G holds in the technology domain, will help the Quad and its allies to develop a common global communication system. This, in turn, would allow each state to not rely on a single entity's technology but to set up networks using their trusted local companies and would provide the opportunity to create a worldwide standard for communication.

Reduced dependency on the Chinese digital infrastructure, its suppliers and the Chinese-influenced technical standards will serve as common ground for Quad collaboration on O-RAN development.

The creation of a global open RAN system will help in increasing 5G coverage and maintaining the scalability and sustainability of 5G networks. What is going to be interesting is that, with China and Huawei clearly winning the 5G race and thereby setting international technical standards in the field of 5G technology, will an alliance like the Quad push the O-RAN alliance as an official technical standards body with its own influence?

With the Chinese companies in the alliance blacklisted by the United States and Nokia pulling the plug on its O-RAN work, will the alliance take on a new avatar to create an international communication standard to counter China's influence in the 5G domain?

Govt awards Kochi-Lakshadweep submarine OFC project to NEC

The Hindu BusinessLine, 05/10/2021

Domestic firms had complained that the tender was designed to favour one company
Japanese conglomerate NEC's Indian subsidiary has beaten domestic telecom equipment manufacturers to win the Kochi-Lakshadweep Islands undersea optical fibre cable link project.

"The bidding process has concluded. NEC was the only bidder and will now be awarded the project. All approvals are in place. It is just a matter of time before it is made public...," a senior government official told BusinessLine.

The tender for the ₹1,072-crore project has been hanging fire for long. Companies that are part of the Telecom Equipment and Services Export Promotion Council and the Telecom Equipment Manufacturers Association of India have written several times to the PMO, the Department of

Telecommunications and the NITI Aayog that the tender was made to favour only one company, NEC India.

"The restrictive eligibility conditions stipulated in the tender which were somewhat softened, however, not to the extent that any Indian company or any other foreign competitor except NEC India could bid in the project," wrote TEPA in its August 31 letter to PMO.

Recently, the companies represented to Neeraj Sinha, Senior Advisor for Digital Communications at NITI Aayog, and he has sought to know from the two bodies the capacities of Indian firms.

And, according to reports, top scientist and NITI Aayog member V K Saraswat too has raised questions on the tender. He said the tender document was designed to bar Indian companies and that this could compromise the security, cost-effectiveness, and reliability of the project'.

The BSNL project will lay a dedicated cable system with 200 Gbps initial capacity to connect all 11 islands of Lakshadweep.

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