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State of India's Digital Economy

A Subnational Perspective

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State of India's Digital Economy: A Subnational Perspective, 2025

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Glossary

AI	Artificial Intelligence
ABHA	Ayushman Bharat Health Account
AePS	Aadhaar-enabled Payment System
APeKX	Andhra Pradesh e-Knowledge eXchange
CHIPS	Connect-Harness-Innovate-Protect-Sustain framework
CMS	Comprehensive Modular Survey
CoV	Coefficient of Variation
DPI	Digital Public Infrastructure
e-KYC	Electronic Know-Your-Customer
e-NAM	Electronic National Agriculture Market
EHS	Environment, Health and Safety
EMS	Energy Management Software
ESG	Environmental, Social and Governance
GDP	Gross Domestic Product
GeM	Government e-Marketplace
GSMA	Global System for Mobile Communications Association
ICT	Information and Communications Technology
ID	Identity Document
INR	Indian Rupee
IoT	Internet of Things
IPCIDE	ICRIER- Prosus Centre for Internet and Digital Economy
IT	Information Technology
ITU	International Telecommunication Union
JAP-IT	Jharkhand Agency for Promotion of Information Technology
K-FON	Kerala Fibre Optic Network
MIDC	Maharashtra Industrial Development Corporation
MoU	Memorandum of Understanding
MSME	Micro, Small and Medium Enterprise
NCCR	National Cyber Crime Reporting
NCR	National Capital Region
NSDP	Net State Domestic Product
OTT	Over-the-top Services/Platforms
PMJDY	Pradhan Mantri Jan Dhan Yojana
ppt	Percentage Point
SIDE	State of India's Digital Economy Report
UPI	Unified Payment Interface
USD	United States Dollar
VC	Venture Capital

Acknowledgements

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Finally, we extend our heartfelt thanks to the readers and supporters of SIDE 2023, SIDE 2024, and SIDE 2025. Your continued encouragement remains a major source of motivation for us to carry this work forward. The report and the underlying data are available at https://icrier.org/ipcide/ and https://icrier.org/publication/. We welcome your feedback and suggestions on the State of India's Digital Economy: A Subnational Perspective, 2025 report at ipcide@icrier.res.in

All errors remain our own.

Top 10 Findings of the Report

India is undergoing a multi-speed digital transformation at the subnational level. In some states, residents are experiencing rapid, robust, and well-balanced digital progress—approaching developed-country standards in many respects. At the other end of the spectrum are states where digitalisation remains slow, fragile, and uneven. The encouraging sign is that many states in the middle are beginning to take off and appear well positioned to catch up with the leaders. Enabling the weak digitalisers to converge with the rest of the country is essential for India to realise its ambition of becoming a global digital powerhouse. Here are the top 10 findings of the report:

01 India's digitalisation exhibits considerable divergence between its digital "hotspots" and "dark spots."

Globally, India ranks as the world's third most digitalised country, but when assessed at the level of the average digital user, its position falls to 28th among the 33 largest countries. The disconnect between aggregate and average digitalisation also stems from significant state-level differences: while a few states host globally competitive digital ecosystems (hotspots), many others remain far behind (dark spots), creating a multi-speed digital India.

02 States naturally cluster into four groups: Advanced, Assured, Ascending, and Aspirational Digitalisers.

The Connect-Harness-Innovate-Protect-Sustain (CHIPS) framework identifies four distinct tiers of digital progress. Advanced digitalisers (Delhi, Kerala, Karnataka, Maharashtra and Haryana) lead across most pillars of the CHIPS framework. Assured digitalisers (Tamil Nadu, Telangana, Punjab, Andhra Pradesh and Gujarat) follow similar trajectories but with more variability than seen for Advanced digitalisers. Ascending digitalisers (Uttarakhand, Rajasthan, Madhya Pradesh, Uttar Pradesh, Himachal Pradesh, Jammu & Kashmir, and West Bengal) show strong momentum despite structural weaknesses. Aspirational digitalisers (Odisha, Bihar, Assam, Chhattisgarh, and Jharkhand) lag behind across most pillars, reflecting deep foundational constraints. The smaller states and Union Territories (UTs), which are ranked separately, also exhibit considerable variation.

03 Connectivity remains the strongest predictor of overall digitalisation, but its momentum is flagging

With a correlation of 0.92 between Connect and the overall CHIPS score, access, affordability, and the quality of digital infrastructure and devices clearly emerge as the strongest drivers of state-level performance. Nine of the top ten CHIPS-ranked states also rank in the top ten for connect, underscoring the central role that connectivity plays in the digitalisation journey. Yet smartphone penetration in several high-income states is beginning to plateau, revealing persistent usage barriers and affordability challenges, among unconnected populations, even in digitally advanced states.

04 A tale of two digital divides: while the gender divide is shaped by local context, the urban-rural gap is a national challenge

The nature of gender and geographical digital divides differs sharply across Indian states. For gender, the average gap within a state is relatively small (12 percentage points, ppt) compared to the gap between states (27 ppt for male and 33 ppt for female), suggesting that gender-based digital inequality is shaped more by state and local context – such as social norms, and cultural attitudes – than by intra-state variation. In contrast, the urban–rural divide shows a different pattern: variation within states (24 ppt) is almost equal to the variation between states (27 ppt for urban and 29 ppt for rural). This indicates that the urban–rural access gap is a nationwide structural challenge, shaped largely by factors such as infrastructure quality, affordability, and service availability, rather than by state-specific circumstances.

05 Harness is the most democratic of all pillars, revealing both unexpected leaders and unlikely laggards

Several assured and ascending digitalisers show strong momentum – namely, Telangana, Himachal Pradesh, Tamil Nadu and Andhra Pradesh – performing exceptionally well on harness, outscoring richer and better-connected states. Digital Public Infrastructure (DPI) has been a powerful force multiplier for many of these states, dramatically reducing transaction costs and enabling targeted service delivery. States that have embraced DPIs – especially sectoral DPIs in health, education, welfare and finance – have experienced much better harness outcomes even when their overall digitalisation is modest.

06 There is a broad-based diffusion of digital behaviour, though private platforms are found to be as big or a bigger equalising force than public platforms and DPIs.

Economic prosperity is no longer the primary determinant of digital participation in India. Richer states do not necessarily use private platforms more, nor do poorer states rely disproportionately on DPIs. Instead, both types of digital services are widely adopted across income levels, signalling a broad-based diffusion. What seems to matter more than income are financial and digital literacy, and the skills of users. But we find clear convergence among states in the use of private apps and platforms, meaning poorer states are catching up rapidly with richer ones — yet no convergence is observed for public platforms and DPIs. This is not entirely surprising, as private apps and platforms are used largely for entertainment, whereas their public-sector counterparts serve more utilitarian purposes and are not designed for universal consumption.

Nevertheless, it does indicate that while market forces naturally promote diffusion and competition in the private sphere, adoption of pubic platforms depends more on state capacity and implementation quality.

07 India's innovation capacity is deeply uneven, with a dramatic concentration in a few states

Innovation in India remains geographically uneven. States that host major IT hubs, such as Delhi, Karnataka, and Maharashtra, account for the bulk of start-up investments, underscoring the concentration of entrepreneurial energy in a handful of regions. In contrast, knowledge production – measured by the establishment of innovation labs, high quality universities and patent producing digital start-ups – appears more uniformly distributed,and many states struggle to convert their knowledge creation into tangible investments by start-ups. As a result, the innovate pillar emerges as the most concentrated among all, exhibiting the widest gap between the best and weakest performers.

08 The most digitalised states face the highest risk of cyberattacks without commensurate protection.

The protection ranking runs counter to the overall digitalisation ranking. None of the top five states offering their residents the greatest protection, namely, Rajasthan, Assam, Punjab, Madhya Pradesh, and Bihar, are advanced digitalisers. They perform well not because they have superior defences, but because their modest protection is sufficient in the face of relatively low levels of digital attack. In contrast, while richer and more digitalised states may have somewhat stronger defences, they face far more frequent attacks, resulting in a low overall level of protection. Accordingly, the three lowest-ranked states on the protect pillar are Karnataka, Tamil Nadu, and Telangana.

09 Sustainability practices vary widely but some late-digitalising states are leapfrogging early movers

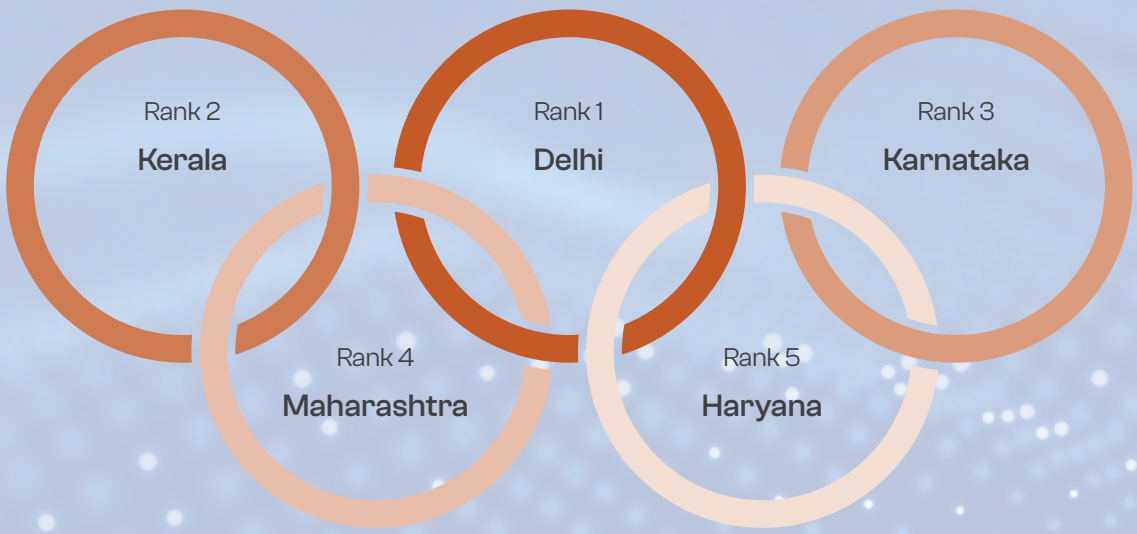
Karnataka, Kerala and Maharashtra, the advanced digitalisers, lead in digital sustainability, but many ascending digitalisers – especially Uttar Pradesh, Madhya Pradesh, West Bengal, and Uttarakhand – are leapfrogging by building greener data centres and adopting sustainable electronics from the outset. Falling technology costs have accelerated this catch-up.

10 India's digitalisation is progressing at multiple speeds, with states advancing along distinct pathways shaped by their strengths and vulnerabilities

Advanced digitalisers show the most balanced progress, while assured digitalisers follow a similar pattern but with less consistency across pillars. Ascending digitalisers appear to be breaking out of their slower trajectory through increased adoption of services and a few emerging innovation hubs, but aspirational digitalisers continue to fall behind. With frontrunner states advancing rapidly while others struggle to keep pace, India risks losing the momentum behind its ambitious Digital Bharat goals.

01
Introduction

India's Five Most Digitalised States in 2025



India's Digital Hotspots and Dark Spots

While India as a nation is highly digitalised, the average Indian user is not. According to the 2025 State of India's Digital Economy (SIDE) report, India ranks as the third most digitalised country in the world in terms of overall digitalisation – behind only China and the United States. However, when assessed at the level of the average digital user, India's position falls to 28th among the 33 largest countries by income or population.

The disconnect between aggregate and average digitalisation stems from differences in the breadth and depth of India's digital ecosystems. Several states – India's digital hotspots – enjoy strong digital foundations, marked by high-quality connectivity, digitally savvy users and established centres of innovation. At the other end of the spectrum are digital dark spots, where digital ecosystems remain weak or underdeveloped. Overcoming this duality by enabling greater diffusion of policies, people, and practices between hotspots and dark spots is essential if India is to emerge as a leading global digital powerhouse in the age of artificial intelligence (AI).

This study, an extension of the 2025 State of India's Digital Economy (SIDE) report, takes a closer look at India's digital ecosystems by unpacking the analysis at the subnational level. It benchmarks the spread of digitalisation across 22 major states and 11 smaller states and union territories, using the Connect-Harness-Innovate-Protect-Sustain (CHIPS) framework developed and refined in successive SIDE reports.[1] In doing so, this study evaluates these ecosystems across three key dimensions of the digital divide – geography, gender and income.

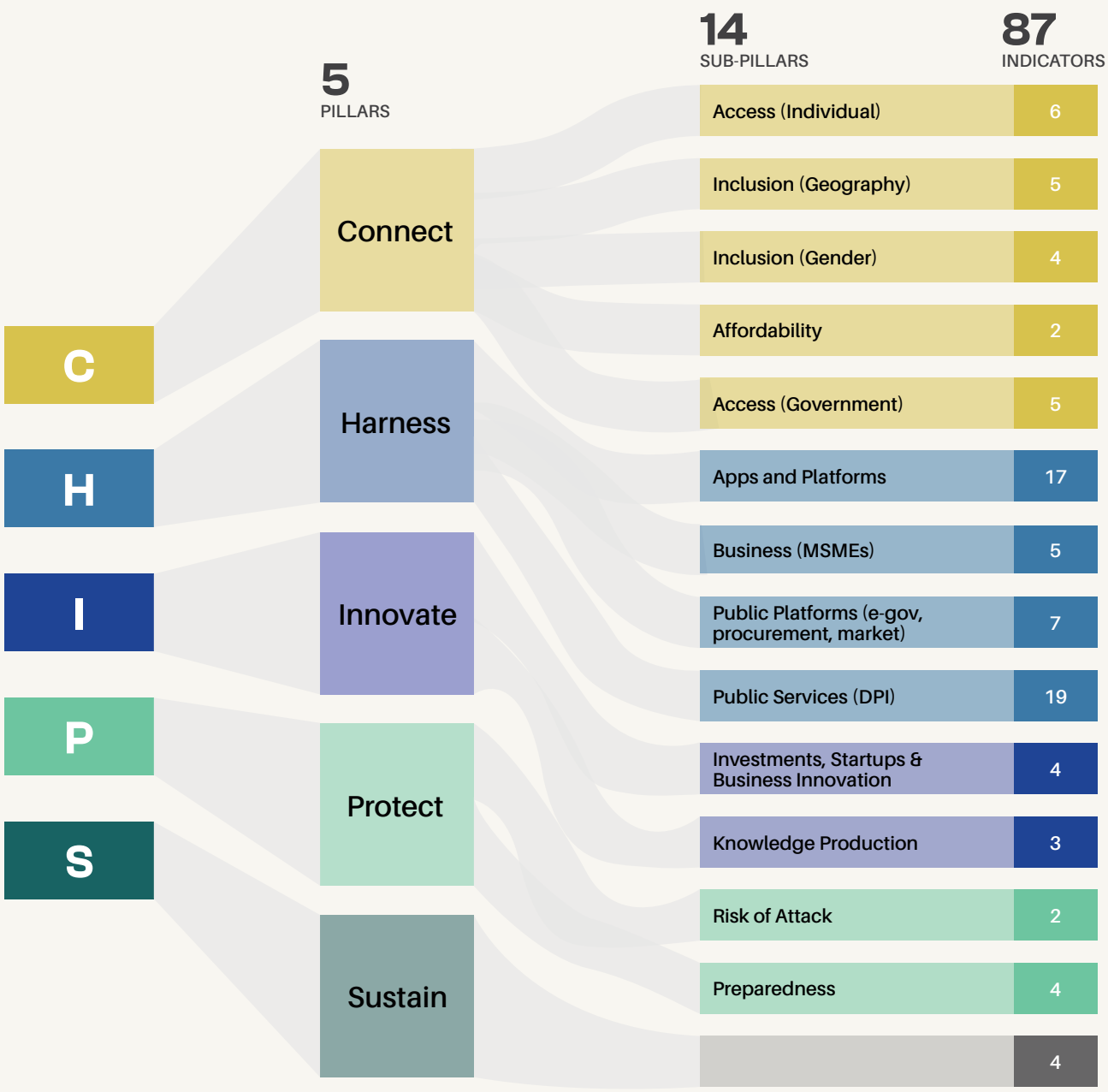
The CHIPS framework measures the full spectrum of digital transformation. Through a multi-layered structure, comprising five pillars, 14 sub-pillars and 87 indicators, it captures the elements that define the breadth and depth of digitalisation in India (see Figure 1). The 'connect' pillar measures all aspects of meaningful connectivity, including access, affordability and quality. The 'harness' pillar captures how digital technologies are being used and leveraged for various purposes, both private and public, including the spread of digital public infrastructures (DPIs). The 'innovate' pillar covers indicators related to investments in the start-up ecosystem and production of knowledge. The fourth pillar, 'protect,' measures a state's vulnerability to cybercrimes and its preparedness in addressing crimes and frauds involving digital technologies. Finally, the 'sustain' pillar, added to the sub-national analysis in this edition, assesses efforts to adopt environmentally sustainable digital technologies, as well as the use of digital tools to promote sustainability.

While the underlying concept of the subnational CHIPS framework mirrors that used for cross-country

[1] Including the large union territories of Delhi and Jammu & Kashmir. Thus by "major states", we refer to all regions that are officially considered as states or UTs with special status and have a population greater than 7 million.

comparisons, the two differ in coverage and content due to variations in data availability. In several areas, data available for states in India is richer and more relevant for measuring digitalisation; for example, 26 indicators measuring the digital divide, 19 indicators capturing the adoption of digital public infrastructures (DPIs), and five indicators tracking the use of digital technologies by MSMEs, all far more detailed than what is available for cross-country comparisons. This explains why the subnational report includes 87 indicators, compared with 47 in the national report. However, in some cases, particularly under the 'protect' and 'sustain' pillars, the availability and reliability of data at the state-level, remain more limited than in the cross-country study.

Figure1 CHIPS Framework in the subnational context



Source: ICRIER-Prosus Centre (IPCIDE)

Four Clusters of Digitalisation

As expected, there is significant variation in the level of digitalisation across India's major states – defined as those with populations exceeding eight million, for the purpose of analysis in this report.[2] Delhi, Kerala and Karnataka rank as the three most digitalised states in India, while Chhattisgarh, Assam and Jharkhand take the bottom three positions (see Figure 2).[3] Among the smaller states and union territories (UTs), Chandigarh emerges as the most digitalised, and Nagaland as the least (see Annexure 1 for more details on ranking and score of small states and UTs).

The analysis reveals four natural clusters among the major states based on their level of digitalisation.[4] These are classified as advanced digitalisers (CHIPS score above 48), assured digitalisers (scores between 41 and 44), ascending digitalisers (between 32 and 38), and aspirational digitalisers (between 25 and 29).[5]

Advanced Digitalisers

Delhi, Kerala, Karnataka, Maharashtra and Haryana – emerge as the most advanced digital states in India, reflecting strong ecosystems that enable individuals and businesses to leverage significant benefits from digital technologies. Not surprisingly, these states are home to India's major IT hubs: Delhi, Bengaluru and Mysore (Karnataka), Mumbai and Pune (Maharashtra), Gurugram (Haryana), and an emerging ecosystem in Kochi (Kerala).[6] Importantly, these five advanced digitalisers are geographically dispersed across three regions – Delhi and Haryana in the North, Kerala and Karnataka in the South, and Maharashtra in the West. Regrettably, the eastern states remain India's digital backbenchers, with most featuring in the bottom two categories.

Assured Digitalisers

The performance of states in this category – Tamil Nadu, Telangana, Punjab, Andhra Pradesh and Gujarat – is less uniform across the CHIPS pillars than that of the advanced digitalisers, but they appear well positioned to close the gap within the next few years. Tamil Nadu performs at or above its category level across all pillars except protect (the outcomes of which are discussed later). Telangana ranks first in harness but falls below its category level in connect, innovate, and sustain. Gujarat performs well in connect and protect but lags in harness and sustain. Andhra Pradesh is the only state that shows balanced performance, remaining within its category range across all pillars.

Ascending Digitalisers

These states are moderately digitalised but show clear signs of momentum and progress, hence the name. Seven states – Uttarakhand, Rajasthan, Madhya Pradesh, Uttar Pradesh, Himachal Pradesh, Jammu & Kashmir and West Bengal – fall into this category. For instance, in terms of the increase in internet use between 2022 and 2024, the top three

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2 See Chapter 7, "State Digitalisation: At a Glance" for state-specific insights, findings and recommendations.

3 The ranking and score of Delhi come with an important caveat. This report draws on data from multiple sources. These sources define Delhi's geographical boundary differently, such as Delhi, the Delhi National Capital Territory (NCT), and the Delhi National Capital Region (NCR). Therefore, in some instances Gurugram and Noida may have been included as part of Delhi. This would affect Delhi's score, and to a lesser extent the scores of Haryana and Uttar Pradesh.

4 We refer to them as natural clusters because the variation in digitalisation scores within each cluster is smaller than the variation between clusters.

5 These four categories were created after reviewing the results. This means the thresholds used are somewhat arbitrary and endogenous to the findings of this report. It also explains why the thresholds are not continuous—for example, there is a gap between the lower bound for advanced digitalisers and the upper bound for assured digitalisers simply because no state has a CHIPS score between 44 and 48.

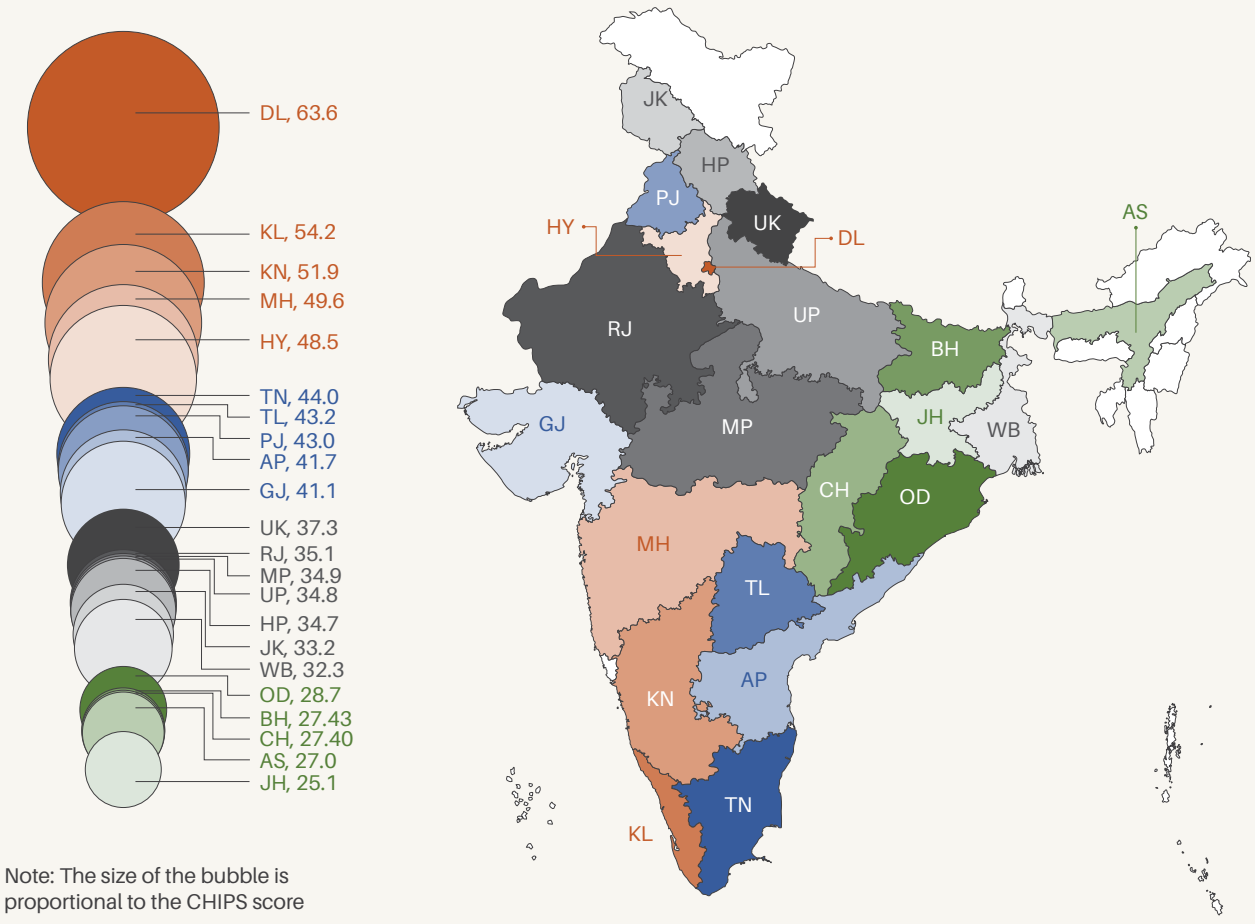
6 Nasscom and Deloitte (2023)

performers are Uttarakhand, Madhya Pradesh, and Himachal Pradesh – all belonging to this group. These states perform relatively well in the harness, protect, and sustain pillars, but lag in the connect pillar. Encouragingly, several states historically viewed as economically lagging, such as Madhya Pradesh, Rajasthan, and Uttar Pradesh, are now classified as ascending digitalisers, demonstrating that with sound policies and effective implementation, states can break out of their old moulds and transition to leaders within just a few years.

Aspirational Digitalisers

These five states – Odisha, Bihar, Assam, Chhattisgarh and Jharkhand – are actively aspiring to strengthen their digital capabilities, but are at a significant distance from the frontier. None of these states feature among the top ten in any of the CHIPS pillars except protect – where the data is less reliable. Together, these eastern states, along with the underperformance of the North Eastern region, risk holding back India's broader digital ambitions, especially at a time when so much of policy-making in the country is riding on the foundations of digital, particularly, AI-driven transformation.

Figure 2 Indian states ranked by their level of digitalisation, 2025



Note: The size of the bubble is proportional to the CHIPS score

Advanced Digitalisers (Score[S]≥48)
Ascending Digitalisers (32≤S≤38)
Assured Digitalisers (41≤S≤44)
Aspirational Digitalisers (S≤29)

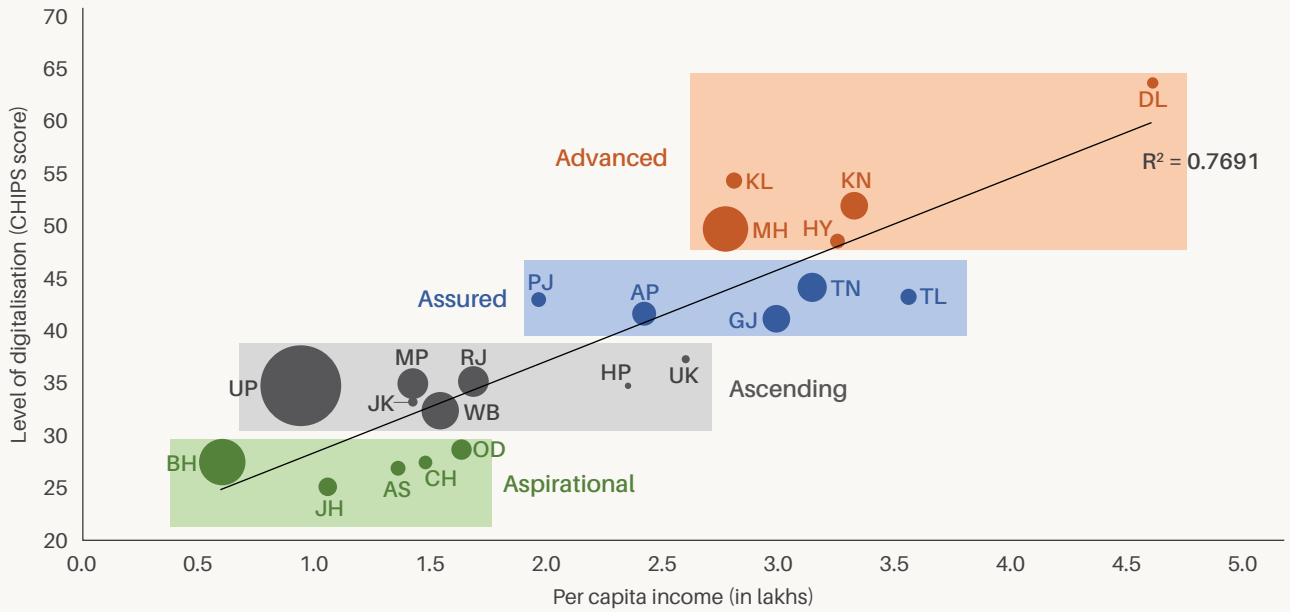
Note: AP: Andhra Pradesh, AS: Assam, BH: Bihar, CH: Chhattisgarh, DL: Delhi, GJ: Gujarat, HY: Haryana, HP: Himachal Pradesh, JK: Jammu & Kashmir, JH: Jharkhand, KN: Karnataka, KL: Kerala, MP: Madhya Pradesh, MH: Maharashtra, OD: Odisha, PJ: Punjab, RJ: Rajasthan, TN: Tamil Nadu, TL: Telangana, UP: Uttar Pradesh, UT: Uttarakhand, and WB: West Bengal
Source: ICRIER-Prosus Centre (IPCIDE)

Two Distinct Features of India's Digitalisation

As is the case globally, the level of digitalisation among Indian states is highly correlated with their per capita income. In fact, nearly 80 per cent of the variation in digitalisation at the subnational level can be explained by a single variable – the state's per capita income (see Figure 3). There are, however, two notable exceptions to this pattern. First, some of the more populous states, such as Bihar, Uttar Pradesh, and Maharashtra, are more digitalised than their per capita income would suggest (i.e., their scores lie above the trend line in Figure 3), while smaller states such as Jharkhand, Chhattisgarh, Himachal Pradesh, Uttarakhand and Telangana are comparatively less digitalised.

While it is tempting to attribute this pattern to a "scale effect," a closer analysis does not support that explanation. One reason may be the coincidence that the more populous states have "double-engine" governments where state and central administrations are politically aligned, resulting in more intensive implementation of central schemes, including those for digitalising access to public services.[7] For example, under the Maharashtra Institution for Transformation (MITRA), the state government has set up a war room to integrate all health related schemes launched by central and state government.[8] Recently, the Skill Development and Employment Minister of Maharashtra also recommended periodic meetings with the central government to improve co-ordination in capacity building.[9]

Figure 3 High income states are more digitalised and vice-versa



Notes: The size of the bubble is proportional to the population of the state; AP: Andhra Pradesh, AS: Assam, BH: Bihar, CH: Chhattisgarh, DL: Delhi, GJ: Gujarat, HY: Haryana, HP: Himachal Pradesh, JK: Jammu & Kashmir, JH: Jharkhand, KN: Karnataka, KL: Kerala, MP: Madhya Pradesh, MH: Maharashtra, OD: Odisha, PJ: Punjab, RJ: Rajasthan, TN: Tamil Nadu, TL: Telangana, UP: Uttar Pradesh, UT: Uttarakhand, and WB: West Bengal
Source: ICRIER-Prosus Centre (IPCIDE)

7 Several indicators under the harness and innovate pillars relate to the adoption of digital public infrastructures (DPIs) and the expansion of digital technologies within public institutions, where more populous states perform relatively better.

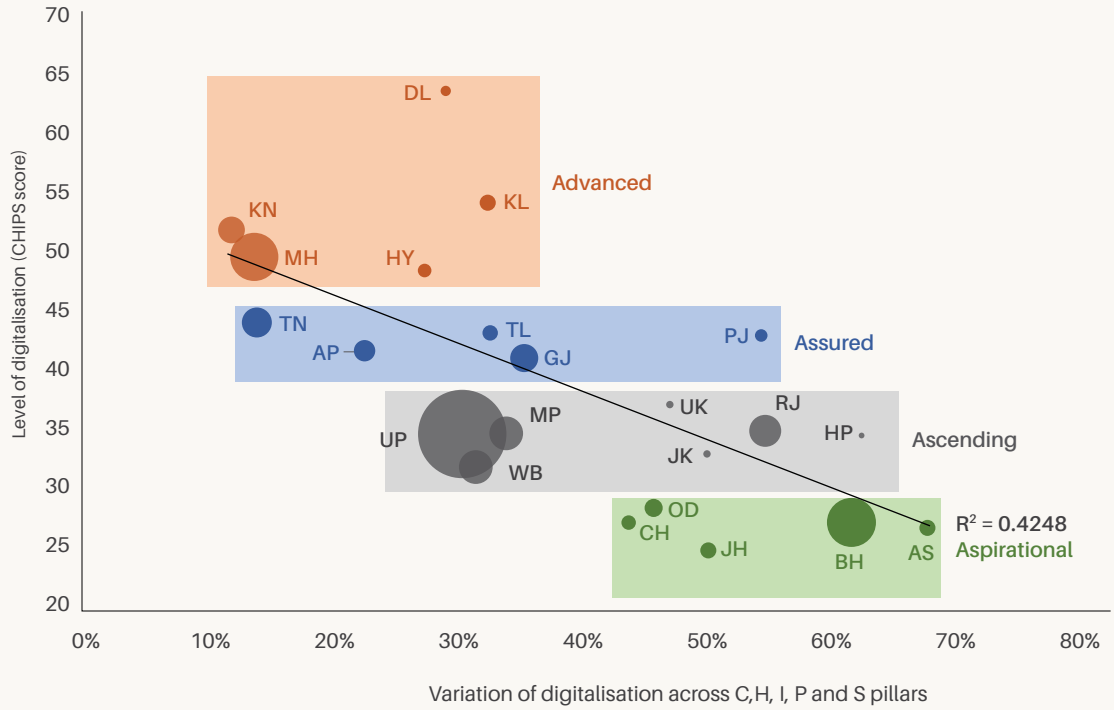
8 Express News Service. (2025).

9 News Desk. (2025).

Second, the performance of manufacturing driven states such as Gujarat and Tamil Nadu is poorer than service-oriented states such as Karnataka and Kerala, after controlling for per capita income. The manufacturing sector contributes 44 per cent and 34 per cent to state GSDP in Gujarat and Tamil Nadu respectively, compared to 20 per cent and 24 per cent in Karnataka and Kerala respectively.[10] On the other hand, the share of the services sector in Karnataka and Kerala are both at 66 per cent, with Gujarat and Tamil Nadu at 36 per cent and 54 per cent respectively.[11]

Another important aspect of India's digitalisation story is the balanced nature of its digital transformation – states that perform well in one pillar tend to perform well across all pillars, and vice versa. This balance is measured using the coefficient of variation (CoV) across the five CHIPS pillars, where a higher CoV indicates uneven digitalisation. As shown in Figure 4, the CHIPS score and CoV are negatively correlated, meaning that more digitalised states also tend to be more balanced in their digitalisation journey. Such balanced progress is less common at the global level. For instance, the 2025 SIDE report finds that the digitalisation in United States is highly unbalanced, with the country performing exceedingly well in the innovate and harness pillars but lags significantly in the connect and protect pillars.

Figure 4 Higher level of digitalisation is associated with more balanced digitalisation



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Source: ICRIER-Prosus Centre (IPCIDE)

[10] Reserve Bank of India. (n.d.).
[11] Including the production of digital goods (e.g., smartphones, digital chips) within the Harness pillar, as done in the cross-country study, would likely raise the scores of states like Gujarat and Tamil Nadu. Unfortunately, consistent state-level data on digital goods manufacturing is not yet available.

The spread of states' performance seems to vary sharply across pillars, with some showing tight clustering and others much wider dispersion. Harness and protect exhibit some degree of convergence, indicating that states are more closely bunched together in their ability to adopt digital services and the lack of capacity to protect users from digital harm. By contrast, connect and innovate show much greater variation: leading states such as Karnataka, Kerala and Delhi score far higher than lagging states, reflecting deeper inequalities in digital infrastructure and innovation capacity.

Unpacking the Pillar Rankings

Unpacking the pillar ranking reveals that connect is the most important pillar for the overall ranking of a state. If a state does well in connect, it tends to do well overall. The top 10 states in the overall ranking are also among the top 11 ranked states in the connect pillar, the exception being Uttarakhand (see Figure 5). In fact, the correlation between the overall CHIPS score and the connect pillar score is found to be 0.92, the highest among all the pillars.[12]

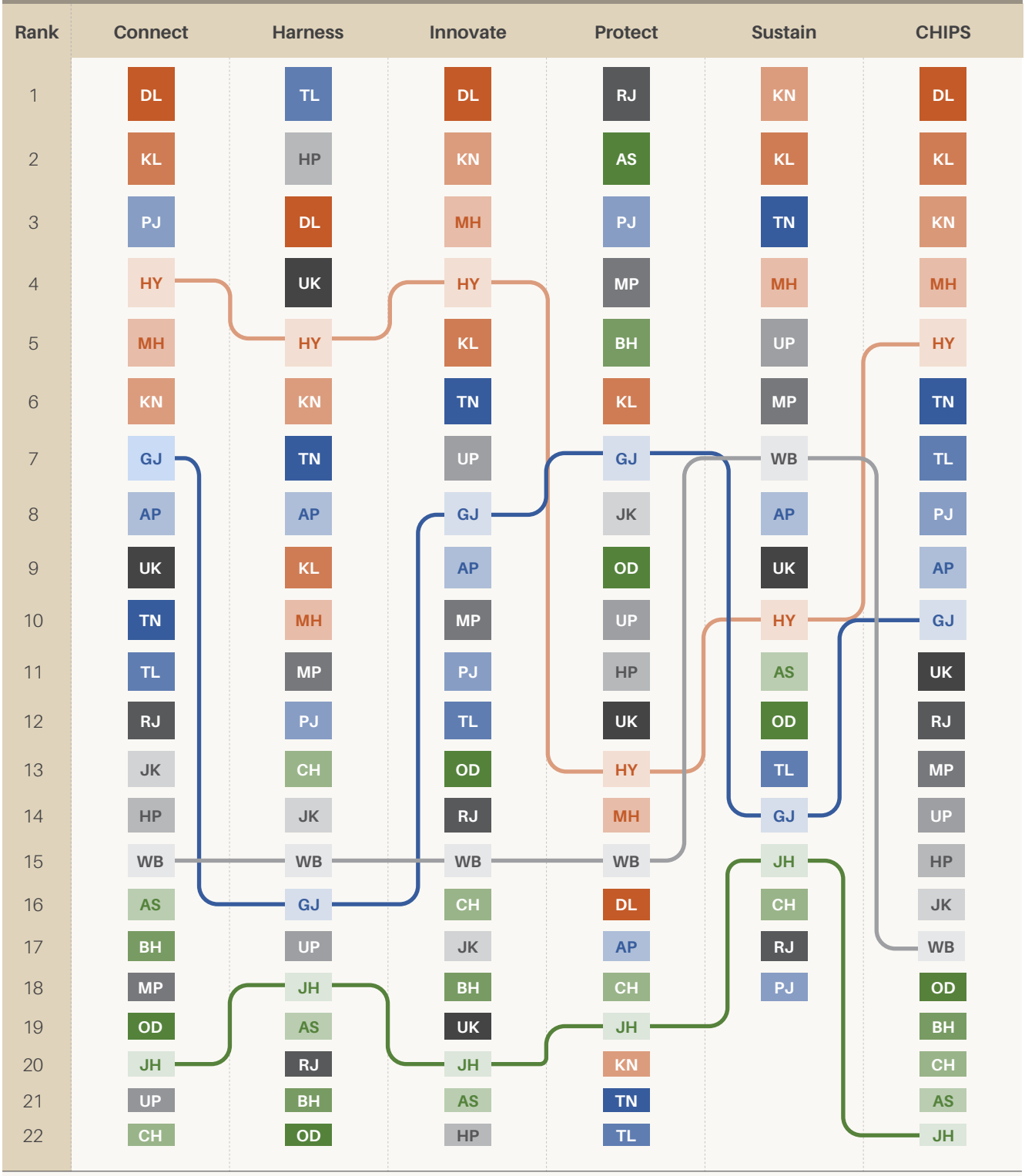
The ranking of the harness pillar reveals several surprises with Telangana, Himachal Pradesh and Uttarakhand occupying three of the top four positions. At the same time, several states that typically perform well across other pillars, such as Kerala, Maharashtra, Punjab, and Gujarat, underperform significantly in harness. Analysis shows that some of these states do not perform as strongly in the adoption of DPIs – one of the sub-pillars for harness – as one might expect, given their relatively high income, education and governance levels. Admittedly, the diffusion of DPI follows varying patterns, which we unpack later in the report. Moreover, several of these states, except Kerala, also perform poorly on digital inclusion indicators, as there remains a wide gap in the harnessing of technologies between genders and between the rural and urban population in these states.

The other pillar that closely reflects the overall level of digitalisation is the innovate pillar. All of the top 10 states in overall digitalisation also appear among the top 12 in the innovate pillar, with the exception of Uttar Pradesh and Madhya Pradesh. Interestingly, several states classified as ascending digitalisers appear to underperform in this pillar, with five of them ranking in the bottom nine. As shown later, there is considerable variation in the innovate pillar, with a few states capturing most of start-up investment and knowledge production.

The most counterintuitive ranking emerges from the protect pillar. Four of the top five performers belong to the ascending and aspirational categories, with Rajasthan, Assam, Bihar and Madhya Pradesh taking the first, second, fourth and fifth ranks respectively. At the other end of the spectrum, the bottom three performers – Karnataka, Tamil Nadu, and Telangana – are among India's more digitalised and prosperous states. Deeper analysis reveals that while residents of low-income states appear better protected against the downsides of digitalisation, such as cybercrimes and digital frauds, it is largely for the wrong reasons. Their high protection stems from a lower exposure to risk, as scammers tend to target residents of wealthier states, and not because their digital ecosystems are better protected. To address for this anomaly, we reduce the weight

[12] The correlation coefficients between the scores of the five pillars—C, H, I, P, and S—and the overall CHIPS score are 0.92, 0.58, 0.86, -0.30, and 0.60, respectively. If we assign uniform weights to the pillars, the corresponding correlation coefficients become 0.87, 0.48, 0.89, -0.07, and 0.74. These results underscore that the strong positive correlation between the Connect pillar and the overall CHIPS score is robust under all weighting assumptions.

Figure 5 Unpacking the state ranking by pillars



Note: AP: Andhra Pradesh, AS: Assam, BH: Bihar, CH: Chhattisgarh, DL: Delhi, GJ: Gujarat, HY: Haryana, HP: Himachal Pradesh, JK: Jammu & Kashmir, JH: Jharkhand, KN: Karnataka, KL: Kerala, MP: Madhya Pradesh, MH: Maharashtra, OD: Odisha, PJ: Punjab, RJ: Rajasthan, TN: Tamil Nadu, TL: Telangana, UP: Uttar Pradesh, UT: Uttarakhand, and WB: West Bengal
Source: ICRIER-Prosus Centre (IPCIDE)

of the protect pillar while calculating the overall CHIPS score. Instead of assigning it same weight as that of the connect, harness, and innovate pillars, we assigned it one-sixth of their weight.[13]

The sustain pillar measures how India's digitalisation integrates environmental sustainability across four areas: green data centres, sustainable electronics and the green intensity of Energy Management Software (EMS) and Environment, Health and Safety (EHS) software. Karnataka, Kerala, Tamil Nadu and Maharashtra lead overall, while several ascending digitalisers, particularly Uttar Pradesh and Madhya Pradesh, show strong leapfrogging ability, ranking high in green data centres and sustainable electronics. Karnataka and Kerala are the only states performing well across both infrastructure and software markets. Uttarakhand excels in green data centre intensity and Kerala, Andhra Pradesh and West Bengal lead in sustainable electronics.

It is important to distinguish between a state's rank and its score. For example, West Bengal ranks 15th in the connect, harness, innovate and protect pillars, and 7th in the sustain pillar. One, therefore, might expect West Bengal's overall ranking to fall between 7th and 15th; however, its actual ranking turns out to be 17th. How is this possible? The explanation lies in the difference between ordinal and cardinal measures: ranking is ordinal (it shows order), while scores are cardinal (they show magnitude). In West Bengal's case, although it ranks 15th in both the connect and innovate pillars, the corresponding scores are 38 and 19 respectively. As a result, the weighted average of the C, H, I, P, and S pillar scores can yield an overall ranking lower than each of the individual pillar rankings. We turn to this important concept next.

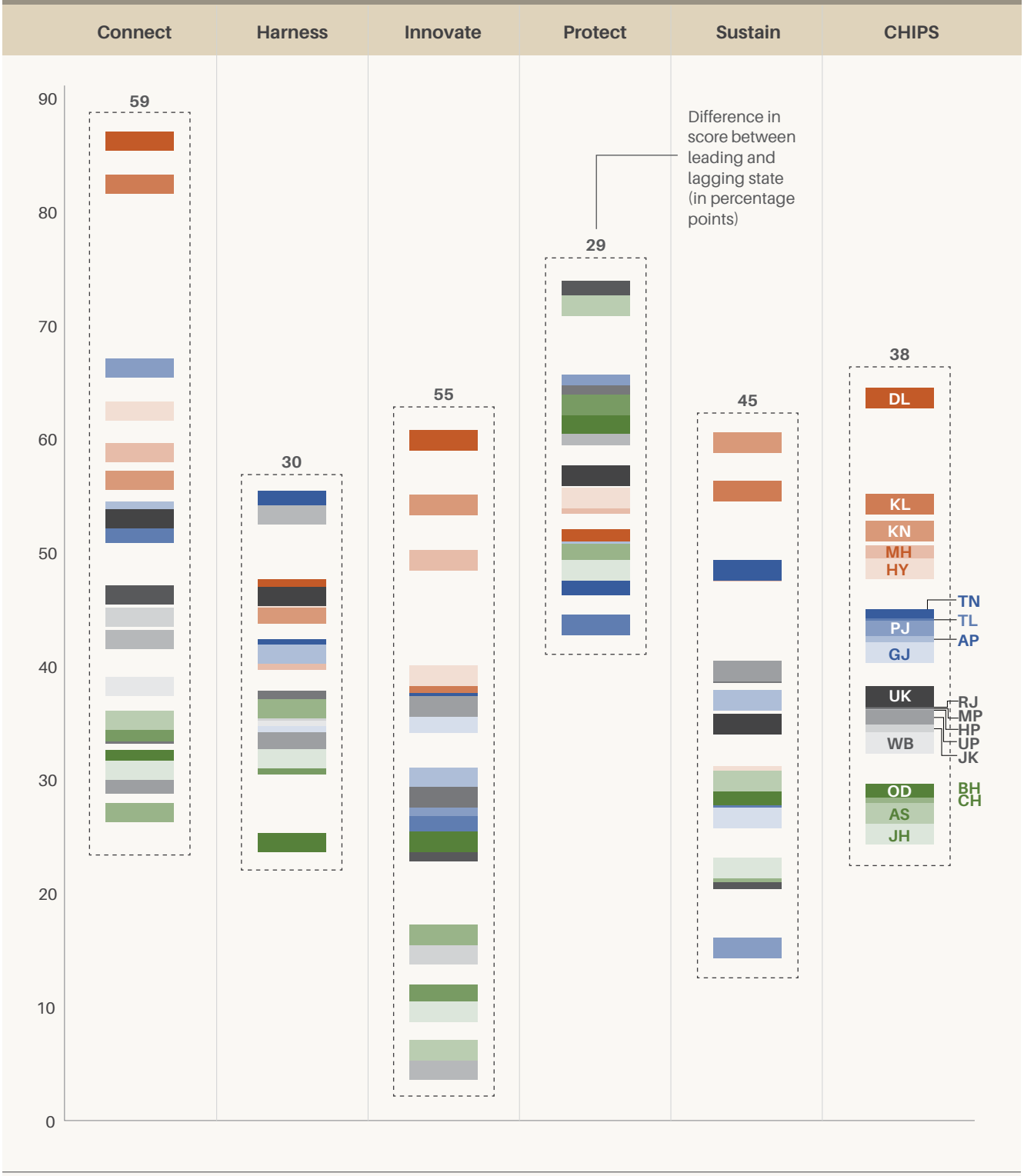
Unpacking the Pillar Scores

Breaking down the overall CHIPS ranking into its constituent pillars reveals several important insights (see Figure 6). Better-performing states such as Karnataka achieve one of the highest overall CHIPS scores by securing top-tier scores in connect, innovate, and sustain, reflecting leadership across multiple parts of the digital ecosystem. Its pillar scores are also more range-bound – 56.3 (C), 44.4 (H), 54.2 (I), 47.7 (P), and 59.7 (S) – indicating that its distance from the frontier (a score of 100) is fairly even across all pillars. In contrast, Punjab has experienced a more uneven pattern of digitalisation. It performs exceptionally well, and even better than Karnataka, in connect (66.2) and protect (64.7), but then scores poorly in the remaining three pillars: harness (36.3), innovate (27.6) and sustain (15.1). The experience of these two states demonstrates that broad-based digital competence (as in Karnataka) produces more durable and balanced digitalisation outcomes than narrow strengths concentrated in only a few pillars (as seen in Punjab).

The spread of states' performance seems to vary sharply across pillars, with some showing tight clustering and others much wider dispersion. Harness and protect exhibit some degree of convergence, indicating that states are more closely bunched together in their ability to adopt digital services and protect users from digital harm. By contrast, connect and innovate show much greater variation: leading states such as Karnataka, Kerala and Delhi score far higher than lagging states, reflecting deeper inequalities in digital infrastructure and innovation capacity.

[13] The pillar weights used in this report are as follows: Connect – 30%, Harness – 30%, Innovate – 30%, Protect – 5%, and Sustain – 5%. In the 2025 SIDE report, which compared India's performance with the 32 largest countries, we faced a similar challenge: the indicators used to measure the Protect pillar were less credible and less relevant than those of the other pillars. We addressed that issue in exactly the same way—by reducing the weight assigned to the Protect pillar.

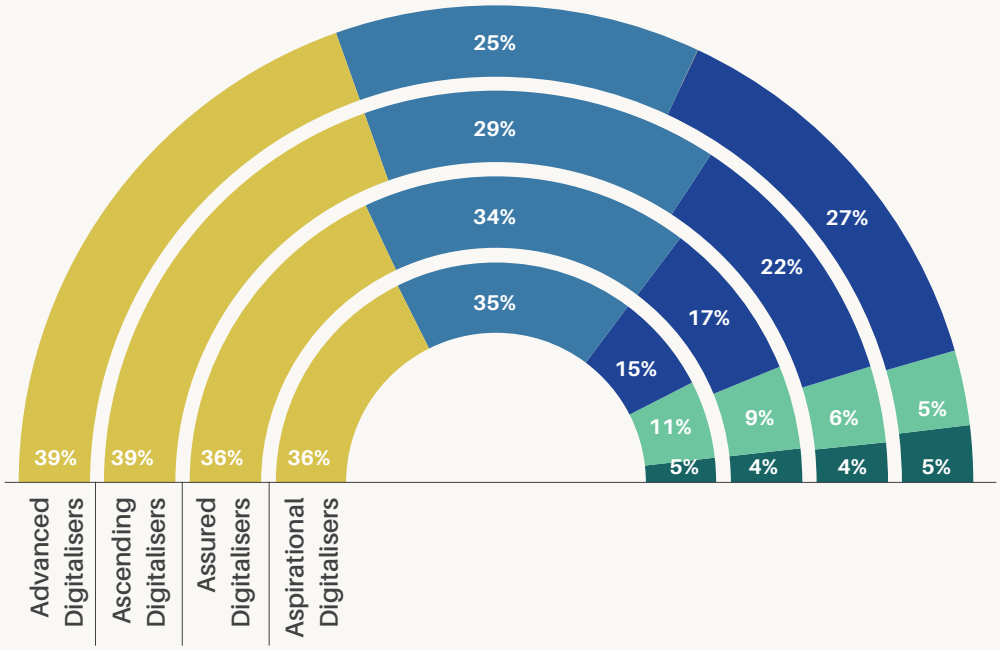
Figure 6 Unpacking the state ranking by pillars



Note: AP: Andhra Pradesh, AS: Assam, BH: Bihar, CH: Chhattisgarh, DL: Delhi, GJ: Gujarat, HY: Haryana, HP: Himachal Pradesh, JK: Jammu & Kashmir, JH: Jharkhand, KN: Karnataka, KL: Kerala, MP: Madhya Pradesh, MH: Maharashtra, OD: Odisha, PJ: Punjab, RJ: Rajasthan, TN: Tamil Nadu, TL: Telangana, UP: Uttar Pradesh, UT: Uttarakhand, and WB: West Bengal
Source: ICRIER-Prosus Centre (IPCIDE)

India's states are at different stages of digitalisation, each capitalising on its strengths and managing its vulnerabilities. Advanced digitalisers experience the most broad-based digitalisation, drawing the bulk of their strength from the connect, innovate, and sustain pillars, reflecting superior digital infrastructure, high-quality connectivity, strong innovation ecosystems and sustainable technology choices (see Figure 7). Assured digitalisers are on a similar trajectory, except that their performance is less consistent across pillars. In contrast, ascending digitalisers rely more heavily on the harness and protect pillars. They perform relatively better in user adoption, platform usage and basic digital safeguards, even though their infrastructure and innovation capacities lag. Aspirational digitalisers resemble the ascending group but lag significantly behind on innovation. In conclusion, as high-performing states advance on all fronts while weaker ones fall behind across multiple pillars, India's digitalisation process faces the risk of growing divergence over time.

Figure 7 Contribution of pillars to the overall CHIPS score

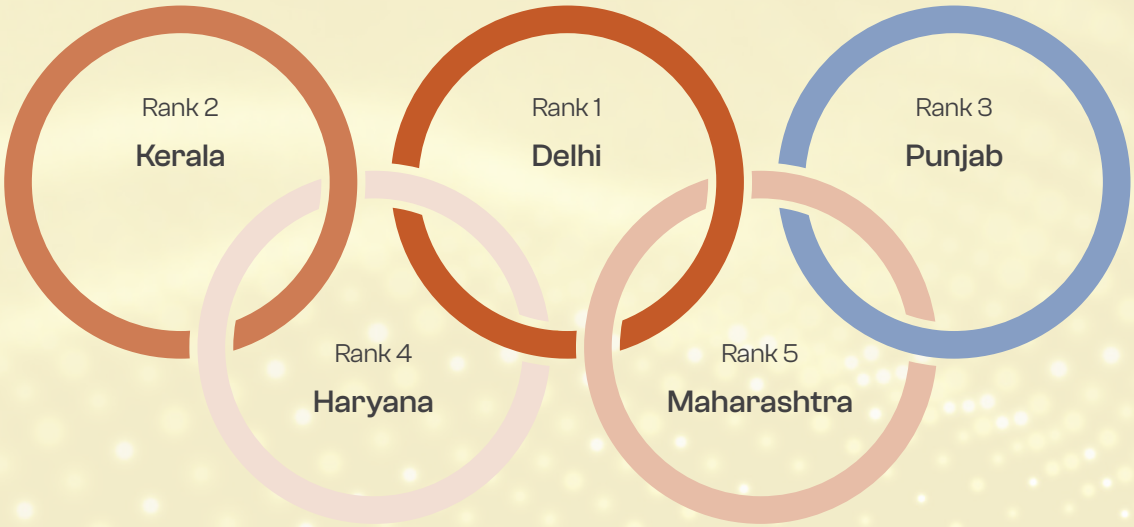


Note: The values of C, H, I, P, and S do not always add up to 100%. This is because we don't have Sustain (S) pillar score in 4 out of the 22 states. As a result, the weights assigned to C, H, I, P, and S vary across states. This leads to the total of the weighted pillar scores exceeding 100%.
Source: ICRIER-Prosus Centre (IPCIDE)

02

Connect Pillar

Top Five Most Connected States in 2025



Connected but Unequal

Connectivity remains the key differentiator in the level of digitalisation across Indian states. In many parts of the world, especially in richer countries, internet access is nearly universal, making it a challenge of the past. In India, however, large disparities persist. Only a few states have made digital technologies accessible, affordable and inclusive for their citizens, businesses and government agencies. Delhi, Kerala, Punjab, Haryana and Maharashtra top the list as the five most connected states while Madhya Pradesh, Odisha, Jharkhand, Uttar Pradesh, and Chhattisgarh make up the bottom five. Even among the best-connected states, digital divides remain significant – both by gender (men vs. women) and by geography (urban vs. rural).

In the Indian context, and for this report, the connect pillar consists of five equally weighted sub-pillars, supported with 22 underlying indicators as shown below (see Annexure 2 for details):

Sub-pillar 1

Access of individuals and households to digital technologies (six indicators)

Sub-pillar 2

Access of government agencies, such as primary health centres, schools, and gram panchayats, to digital infrastructure (five indicators)

Sub-pillar 3

Geographical (urban-rural) divide in access (five indicators)

Sub-pillar 4

Gender (male-female) divide in access (four indicators)

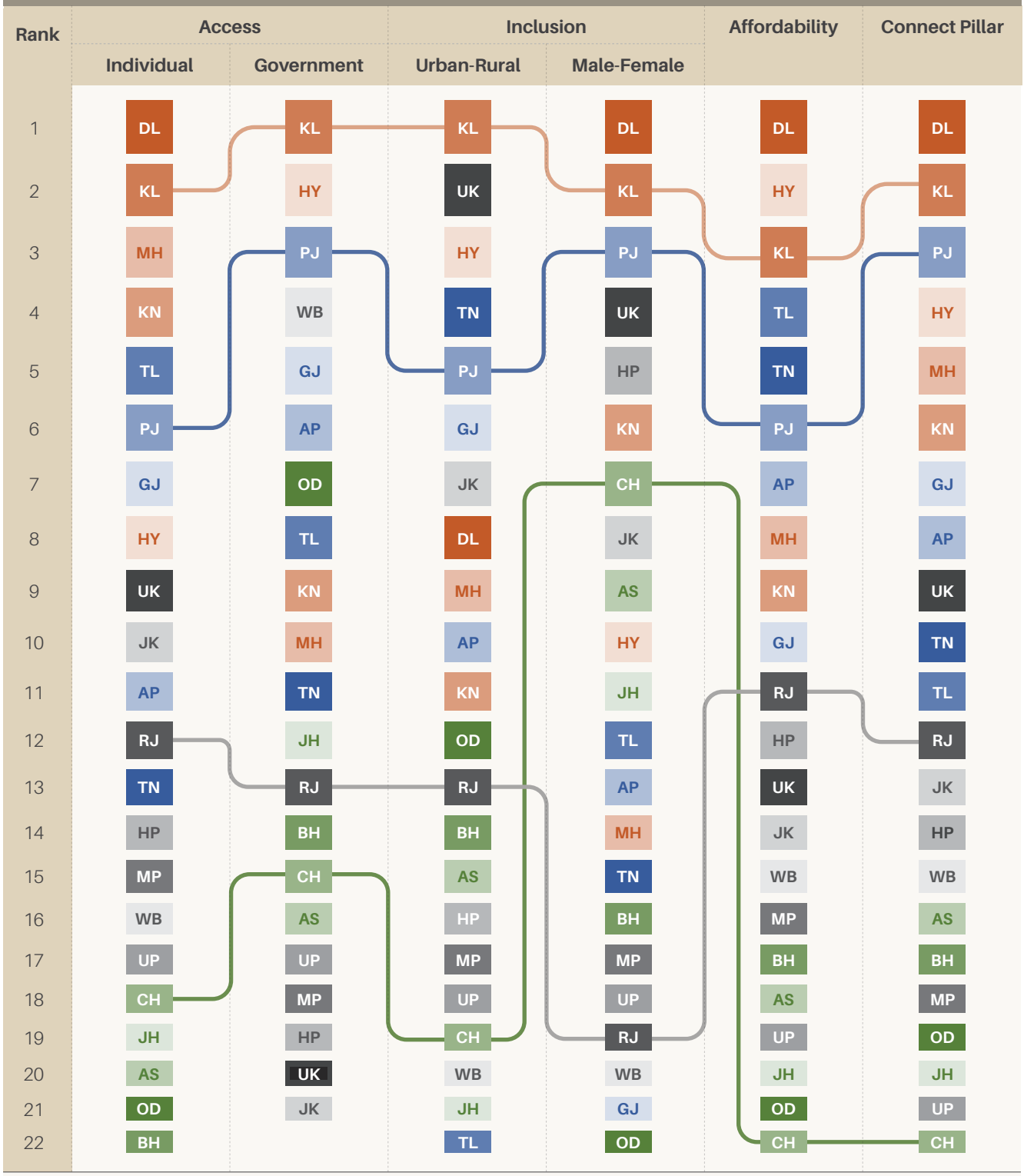
Sub-pillar 5

Affordability of smartphones and internet services (two indicators)

Connectivity and Prosperity: The Reinforcing Loop

As expected, economically prosperous states are significantly better connected than poorer ones (see Figure 8). Delhi tops the table, combining high levels of access with affordable prices. Kerala stands out as a consistent leader, ranking among the top three across all five sub-pillars, while Punjab's strength lies in its well-connected citizens and government institutions.

Figure 8 Unpacking the state ranking for Connect Pillar



Note: AP: Andhra Pradesh, AS: Assam, BH: Bihar, CH: Chhattisgarh, DL: Delhi NCR, GJ: Gujarat, HY: Haryana, HP: Himachal Pradesh, JK: Jammu & Kashmir, JH: Jharkhand, KN: Karnataka, KL: Kerala, MP: Madhya Pradesh, MH: Maharashtra, OD: Odisha, PJ: Punjab, RJ: Rajasthan, TN: Tamil Nadu, TL: Telangana, UP: Uttar Pradesh, UT: Uttarakhand, and WB: West Bengal
Source: ICRIER-Prosus Centre (IPCIDE)

However, several other high-income states underperform on inclusion. For example, Telangana records the widest urban-rural divide among the 22 major states, and Gujarat ranks second from the bottom on gender divide. Worryingly, states such as Telangana, Andhra Pradesh, Maharashtra and Tamil Nadu, despite being more digitally advanced, exhibit a larger gender gap than less digitalised states, suggesting that rapid expansion in connectivity in these states may have come at the cost of equity.

When it comes to the connectivity of public institutions such as schools, health centres and gram panchayats, it is not just the rich states that are performing well. Odisha, a relatively poor state, outperforms richer peers such as Telangana, Karnataka, Maharashtra and Tamil Nadu, and states like Jharkhand and Bihar also punch above their weight. This is likely to have been driven by the changes introduced under the BharatNet Programme. Surprisingly, the bottom five states in terms of government connectivity are all ascending digitalisers – Uttar Pradesh, Madhya Pradesh, Himachal Pradesh, Uttarakhand and Jammu & Kashmir – and not aspirational digitalisers. This suggests that implementation of projects such as BharatNet show great promise in connecting public institutions in underserved regions.

The affordability sub-pillar mirrors the pattern of per capita income across states. Since the prices of smartphones and internet data are largely uniform nationwide, affordability – measured as the price relative to income – varies by differences in income levels. This underscores the importance of economic development in shaping digital accessibility.

The Progress in Connectivity is Plateauing

Internet and smartphone access are the most critical for advancing digitalisation, but remain very uneven across states. About 80 per cent of Delhi's population has internet access, nearly double that of Bihar (43 per cent), while smartphone ownership shows an even wider gap – 82 per cent in Delhi compared to 34 per cent in Odisha (see Figure 9). Such stark disparities between the frontier state and the lowest ranked state in basic digital access, continue to constrain inclusive digital development in India.

Figure 9 Digital divide in the use of internet and smart phone is narrowing, with most improvement seen among states labelled as "ascending digitalisers"

Note: AP: Andhra Pradesh, AS: Assam, BH: Bihar, CH: Chhattisgarh, DL: Delhi, GJ: Gujarat, HY: Haryana, HP: Himachal Pradesh, JK: Jammu & Kashmir, JH: Jharkhand, KN: Karnataka, KL: Kerala, MP: Madhya Pradesh, MH: Maharashtra, OD: Odisha, PJ: Punjab, RJ: Rajasthan, TN: Tamil Nadu, TL: Telangana, UP: Uttar Pradesh, UT: Uttarakhand, and WB: West Bengal, AVG: Average (Median)
Source: ICRIER-Prosus Centre (IPCIDE)

Not only is access to smart phones one of the most important barriers to accelerating digitalisation in India, it also showing signs of slowing down. At the national level, India recorded a six-percentage point increase in internet access and a five-percentage point rise in smartphone use between 2022 and 2024. Worryingly, smartphone adoption, already lower than internet access, is slowing down. For example, Telangana experienced a five-point decline in smartphone access, while Karnataka showed no growth, and Maharashtra and Tamil Nadu only modest increases.[14] The plateauing of smartphone penetration in several high-income states is particularly concerning, as it signals potential saturation in the broader market and simultaneously highlights usage barriers and affordability challenges, among unconnected communities even in digitally advanced states.

A Tale of Two Divides

The flip side of plateauing smartphone penetration is the persistent digital divides prevailing across states in India. While all forms of digital divides pose challenges, the nature of the gender and geographical divides differs sharply in the Indian context. In the case of gender, the average gap within a state – about 12 percentage points – is relatively small compared with the gap between states, which stands at 27 percentage points for men and 33 percentage points for women (see left panel, Figure 10). This suggests that gender-based digital inequality is shaped more by state and local context, such as education and social norms, than by inter-state variation or national factors.

A different pattern is observed for the urban-rural divide, where the difference within states is as high as that the one between states, as is evident from the steeper downward slope of the lines representing geographical disparities compared to those for gender disparities (see Figure 10). This suggests that urban-rural access gaps are a nationwide structural challenge, driven by national factors such as infrastructure quality, affordability and service availability, rather than by state-specific characteristics

These findings carry important policy implications: while gender gaps can be addressed effectively through localised community driven initiatives – for instance, improving digital literacy among women and promoting inclusive digital programmes through social nudging – bridging the urban-rural divide will require co-ordinated efforts, including by the private sector, to expand broadband and other supporting infrastructure, and reducing the cost of access in rural India.

This large usage gap persists, despite near-universal digital coverage. The GSMA highlights that this gap is driven by a combination of affordability constraints, low digital literacy, limited perceived relevance, and social and gender barriers that disproportionately affect women, rural residents and low-income households.[15] Smartphone costs remain high, relative to monthly incomes in many states, while data costs – though among the lowest globally – still pose a burden for the poorest users. Closing this divide requires a shift from infrastructure-centric policy to user-centric strategies: targeted smartphone subsidies or financing schemes for low-income households, large-scale digital literacy and safety campaigns,

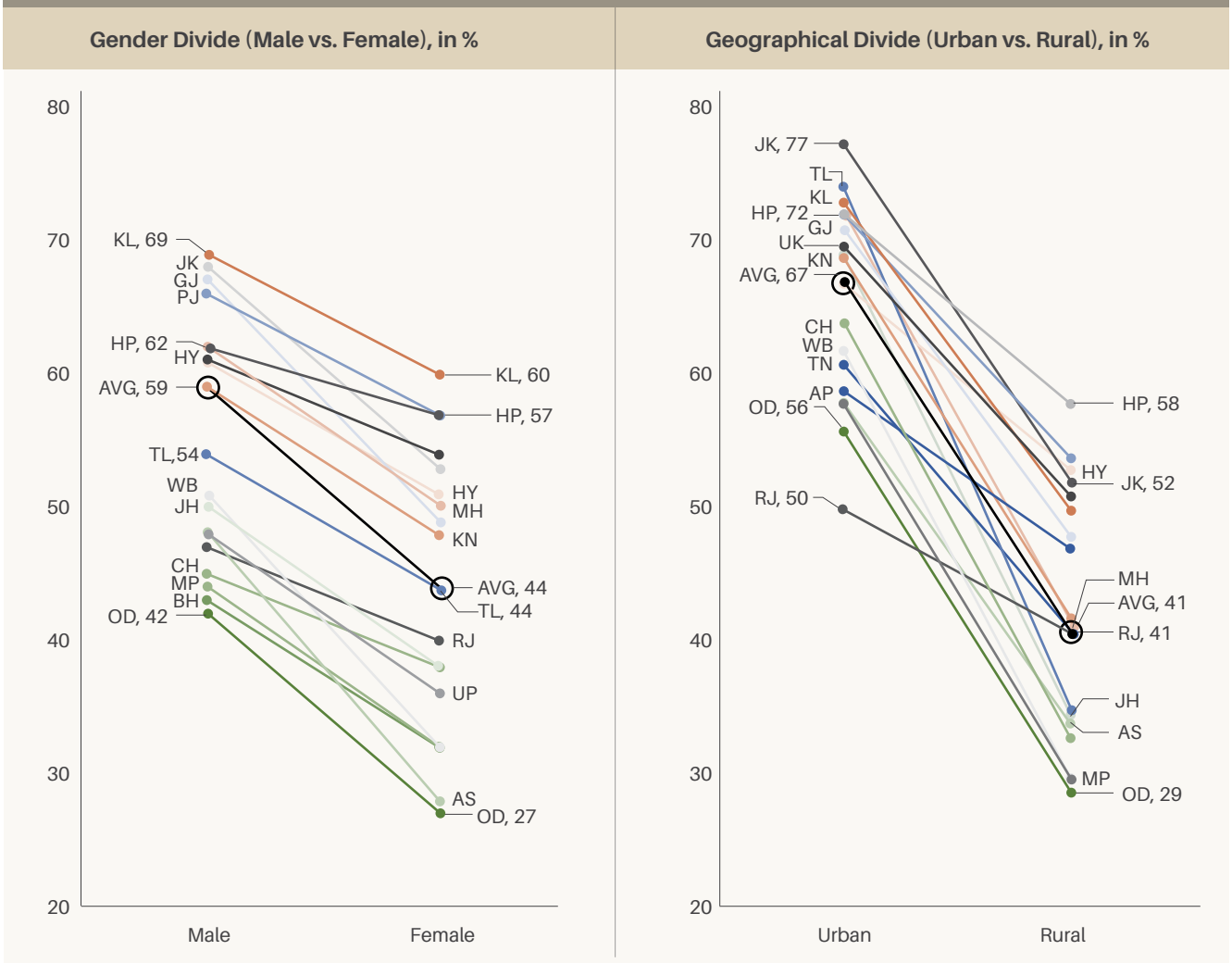
[14] Telangana's data seemed puzzling. Between 2022 and 2024, the share of the rural population using the internet increased from 50 per cent to 58 per cent while the share of those using smartphones declined from 43 per cent to 35 per cent. According to Kantar, the source of our data, these trends are accurate and can be explained by the growing use of shared devices in rural areas.

[15] GSMA (2025)

local-language content, community digital access points and women-focused interventions to reduce social barriers.

However, if current trends persist, India could achieve gender parity in smartphone use by around 2029 but urban-rural parity remains a distant goal. As shown in the left panel of Figure 11, the gender gap in smartphone adoption is narrowing, though progress is faster in wealthier states than in poorer ones, reflected in the downward-sloping 2024 trend line and the widening gap between the 2022 and 2024 lines. In contrast, progress on closing the urban-rural divide has been much slower (see right panel, Figure 11). The flat trend lines suggest that the geographical disparity has remained largely unchanged across several states, including Telangana, Karnataka, Odisha, and Andhra Pradesh. If this business-as-usual trajectory continues, rural areas risk falling further behind. Without a co-ordinated national effort to make internet access and smartphones more affordable and widespread in rural regions, India could undermine its broader digitalisation goals and lose momentum in building an inclusive digital economy.

Figure 10 The within-state gender divide is smaller than the between-state gender divide, whereas the opposite holds true for the urban-rural divide



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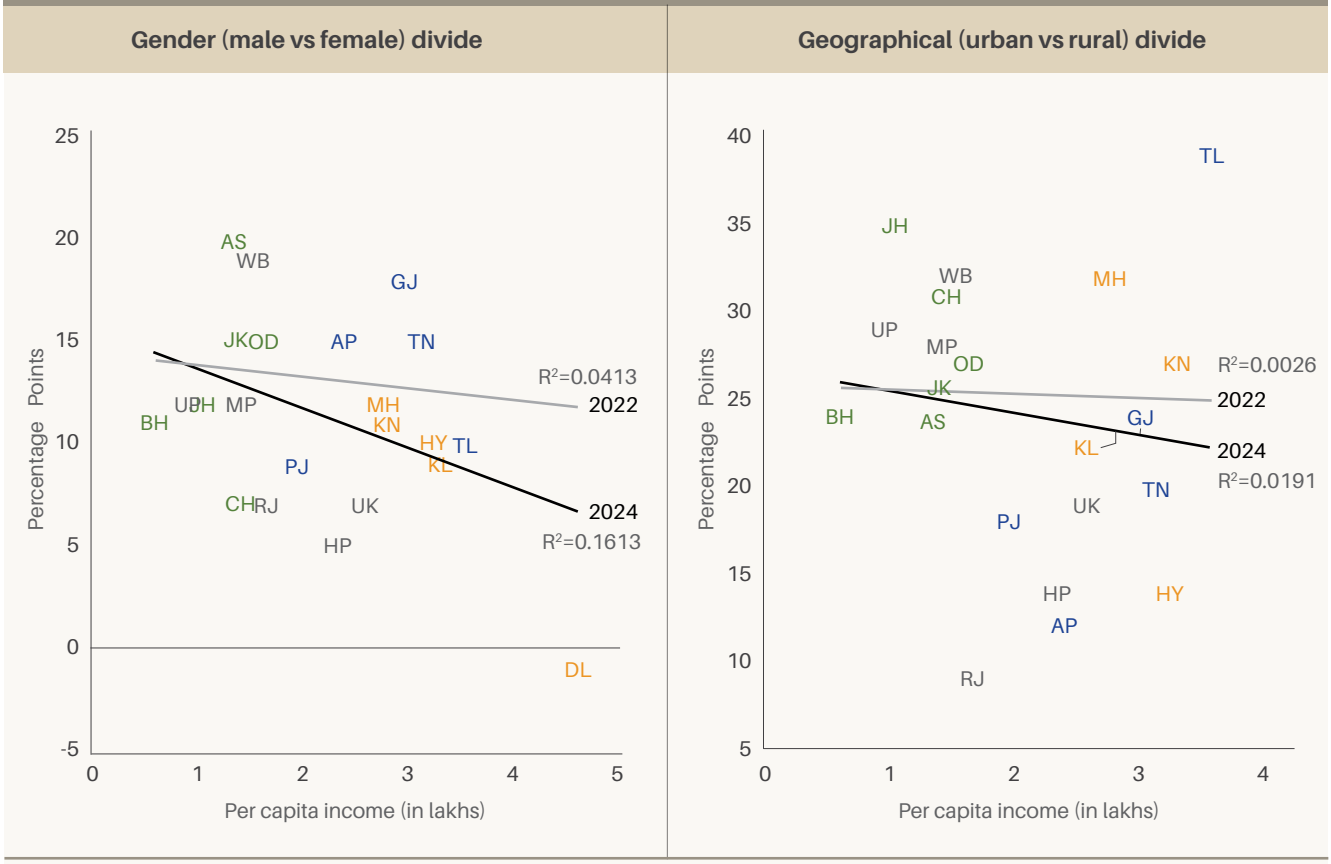
Source: ICRIER-Prosus Centre (IPCIDE)

Despite India's ambitious efforts under the BharatNet programme to connect thousands of rural gram panchayats via optical fibre (middle-mile), rural internet access remains largely constrained by last-mile connectivity. An ICRIER policy brief showed that while the backbone network is in place, the final leg into homes and local institutions remains weak, limiting meaningful access and usage. In its latest phase, Phase III, the amended BharatNet programme recognised the challenge in last mile connectivity in rural areas and proposed to expand connectivity to all inhabited villages, improve network design, incentivise a village entrepreneur model to improve the operations and maintenance of the network. It also called for strengthening state-level implementation and accountability; and tailoring models for remote and weak regions.

Figure 11 Geographical divide for smart phone is not only higher than gender divide, it is also narrowing more slowly



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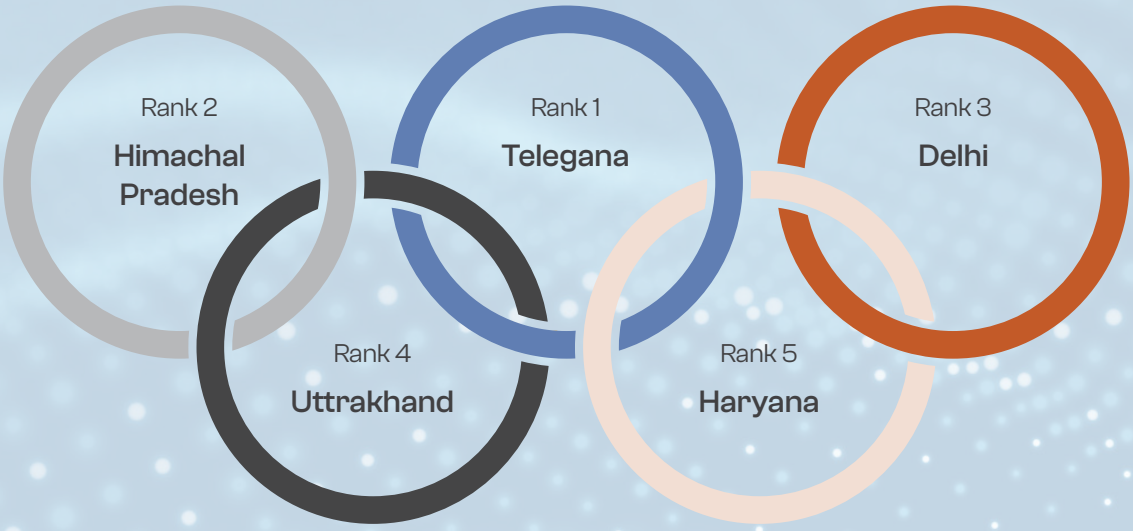
Per capita income is proxied by Net State Domestic Product (NSDP) per capita in current prices (2023-23)
Source: ICRIER-Prosus Centre (IPCIDE)

03

Harness Pillar

Five Best Performing States in terms of Harnessing of Digital Technologies in 2025



Democratising Harness: It is Happening

Using digital technologies to drive growth, boost efficiency and improve service delivery – as captured by the "harness" pillar – is India's greatest strength. According to the **2025 State of India's Digital Economy** (**SIDE**) report, India ranks third globally on this pillar, behind only China and the United States. This strong performance reflects India's large and youthful population eager to adopt new technologies and services, aided by the rapid expansion of mobile internet access, successful rollout of digital public infrastructures (DPIs) such as Aadhaar, the Unified Payments Interface (UPI), and DigiLocker, and spawning of private sector apps and services.

India's success in harness is built on the collective performance of its states. Our analysis shows that harness is the most democratic pillar within the CHIPS framework, meaning that the gap between the best- and worst-performing states is narrower here than in any other pillar. Telangana, Himachal Pradesh, Delhi, Uttarakhand and Haryana emerge as the top five performers, while Jharkhand, Assam, Rajasthan, Bihar and Odisha occupy the bottom five positions. Interestingly, when it comes to the adoption of digital platforms, whether public infrastructures like UPI and DigiLocker or private platforms such as e-commerce and digital payments, there is no clear pattern. Adoption rates remain consistently high across most states, underscoring the widespread enthusiasm for using digital tools once connectivity barriers are overcome.

In the Indian context, and for this report, the harness pillar comprises four equally weighted sub-pillars, supported with 48 underlying indicators as shown below (see Annexure 2 for details):

Sub-pillar 1

Apps and private platforms (17 indicators)

Sub-pillar 2

Adoption by MSMEs (five indicators)

Sub-pillar 3

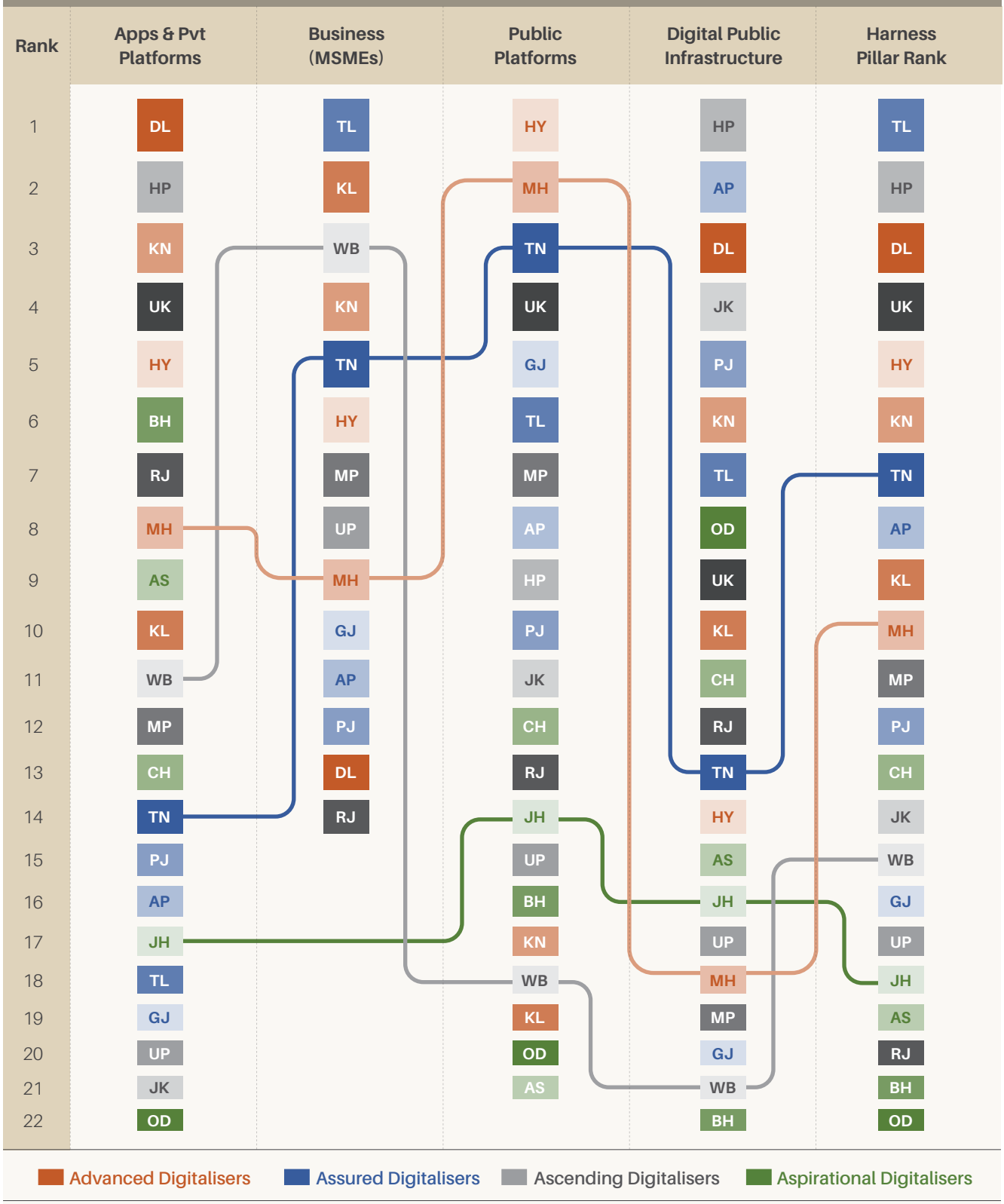
Public platforms (seven indicators)

Sub-pillar 4

Digital Public Infrastructure (19 indicators)

The coverage of the harness pillar is perhaps the most robust among all the pillars in this report. Of the total 87 indicators, 48 are used to measure the strength of the harness pillar. This is also the first report of its kind to compare and contrast the diffusion of private apps and platforms, government platforms (e.g., MyGov and UMANG), and DPIs across Indian states. There are good reasons to treat public platforms differently from DPIs. Public platforms are typically owned and operated by government departments and are not always open or interoperable. In contrast, DPIs are open, interoperable, secure, and population-scale, serving both public and private providers alike.

Figure 12 Unpacking the state ranking for the Harness Pillar



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Source: ICRIER-Prosus Centre (IPCIDE)

A Level Playing Field

The harness pillar rankings show no single dominant state or cluster of states. States from different categories – advanced, assured, and ascending digitalisers – feature among the top performers, suggesting that the ability to harness digital technologies is widely diffused rather than concentrated (see Figure 12). This reinforces the notion that the harness pillar is the most democratic of the CHIPS dimensions, providing a level playing field for all, with relatively smaller disparities between the best- and worst-performing states.

A notable finding is the outperformance of ascending digitalisers, such as Himachal Pradesh, Uttarakhand, West Bengal and Jammu & Kashmir, which appear among the top performers in several sub-pillars. Himachal Pradesh and Jammu & Kashmir rank especially high in private platforms and DPIs, while Uttarakhand demonstrates balanced strength across both public and private platforms. This indicates that mid-level states are rapidly catching up with advanced ones in their ability to use digital technologies effectively.

Even lower-income and aspirational states, such as Bihar, Madhya Pradesh and Odisha, are outperforming their category, securing places within the top 10 for specific sub-pillars, especially in private platform adoption and DPIs. This suggests that the expansion of DPIs and widely accessible private digital services is enabling more inclusive digital adoption across India, narrowing the harnessing gap between rich and poor states.

The Equaliser: Private Platforms or Digital Public Infrastructures?

Why does the harness pillar offer a more level playing field to states than other pillars? One possible explanation is that barrier to harness, namely use of apps, platforms and DPIs, is much lower than the barrier to connectivity, namely access to a smart phone or the internet. And since our harness indicators focus only on the people and business who have overcome the connectivity barrier, it is natural to expect less disparity and more convergence. But not all apps, platforms and DPIs are equal. So, which one of them has the biggest impact in equalising the score for the harness pillar? We turn to this question here by analysing the coverage of seven categories of private platforms, five public platforms and eight DPIs (see Table 1).

Table 1 The private platforms and apps, public platforms, DPIs included in this study

Private platforms and apps	e-commerce Email Online music Online search OTT Video Social Media
Public Platforms	My Gov GeM (used by gram panchayats and SMEs) UMANG e-Nam (coverage of mandis and farmers), and e-Sanjeevani (healthcare)
Digital Public Infrastructures	Aadhar Account Aggregators (coverage of Banks) DigiLocker Digital payments/ UPI (end users and banks) e-KYC in Skill India e-Shram (labour) Health IDs Unique Disability ID
MSMEs using for sale and promotion	Mobile applications e-commerce platforms Own website Social media Digital tools for promotion

Source: ICRIER-Prosus Centre (IPCIDE) and Vi Business MSME ReadyForNext Growth Insights Study (https://www.myvi.in/business/enterprise-segments/smb/msme-readyfornext-digital-assessment)

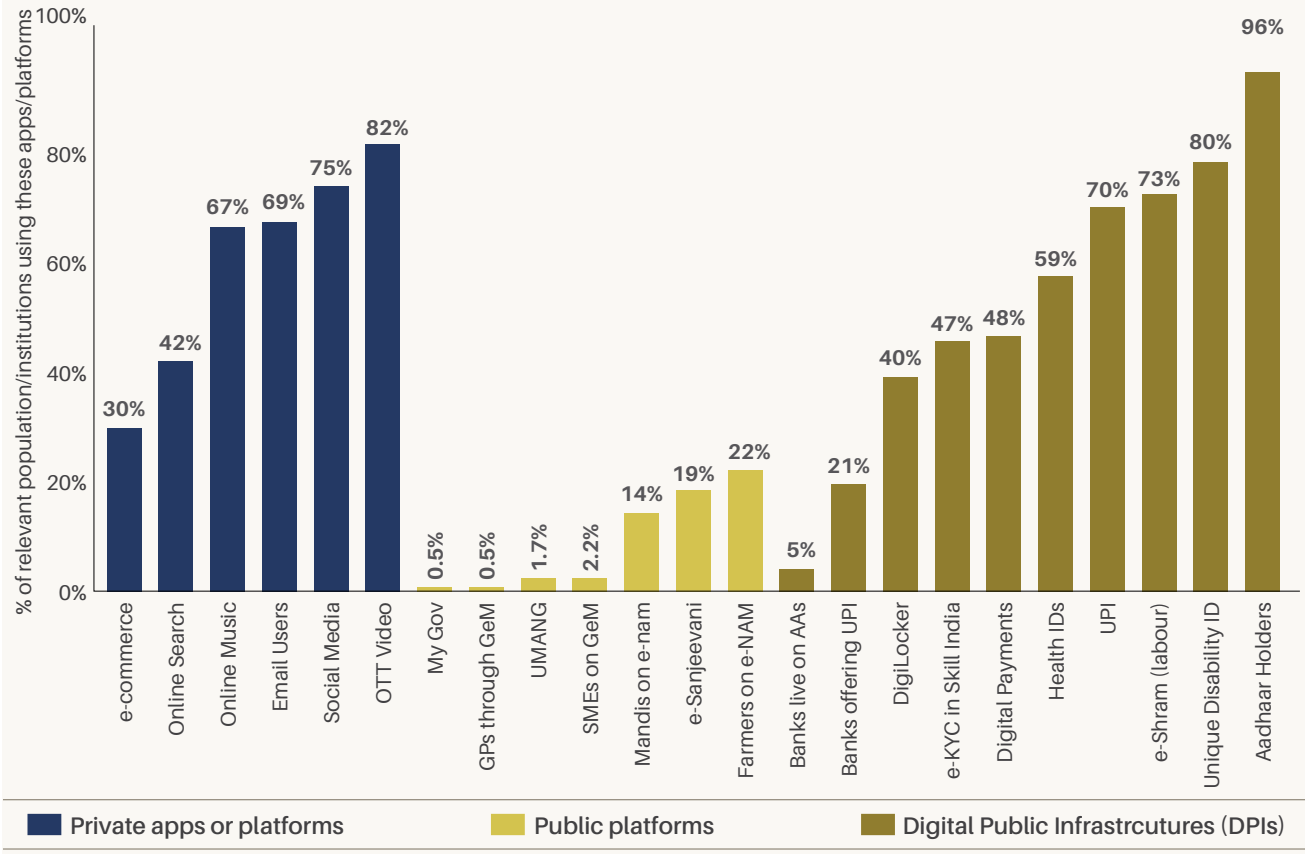
The data show that DPIs, such as UPI, DigiLocker, and Aadhaar-enabled systems, are now used almost as widely as private digital platforms and apps (see Figure 13). This marks a significant shift from earlier years when private platforms dominated digital engagement. The near-parity in usage highlights India's success in creating public digital rails that compete effectively with market-driven alternatives, offering a distinct "third way" to digitalise an economy – a healthy balance between public and private digital usage.[16]

But the data also point to the unevenness of state-facilitated digitalisation. While DPIs – given their integrated, interoperable and private sector innovation features – remain popular, the coverage of public platforms has been abysmally low, with several failing to achieve even a one percent usage

[16] The other two ways are solely the market-led digitalisation model offered by the US and the largely state-led digitalisation approach adopted by China.

rate. Among the DPIs, not all perform equally well: those involving digital IDs, such as identity, disability, and health, have achieved near-universal coverage, whereas those linked to finance or advanced digital skills have been less popular. But underperforming public platforms and infrastructure have continued to exist despite limited adoption, as they are not constrained by financial viability challenges and continue to exist as an alternate. Private platforms, by contrast, lack such protection; those with low user uptake typically exit the market. This asymmetry explains why the coverage ratio for public platforms and DPIs ranges widely from 0.5 per cent to 96 per cent, while that for private platforms is much narrower, between 30 per cent and 82 per cent.

Figure 13 Digital public infrastructures are as popular as private platforms and apps among connected users in India



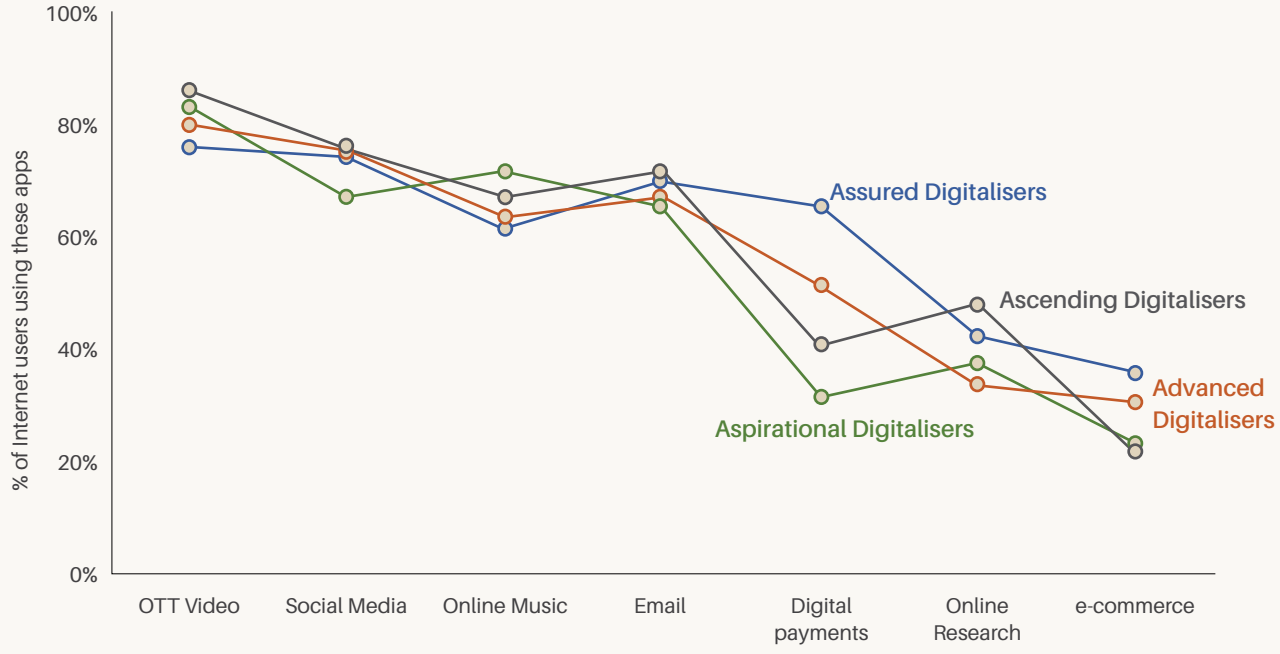
Note: Data for UPI is taken from CMST in order to ensure comparability with the other indicators on DPIs from public sources.
Source: ICRIER-Prosus Centre (IPCIDE)

The intensity of use of private apps and platforms varies by product, but there is little difference across states. States from all four digitalisation categories – advanced, assured, ascending, and aspirational – show similar usage rates for major private platforms (see top panel, Figure 14). This suggests that private digital services have achieved near-universal reach among connected users across most states, especially ones like social media and OTT that require low digital skills.

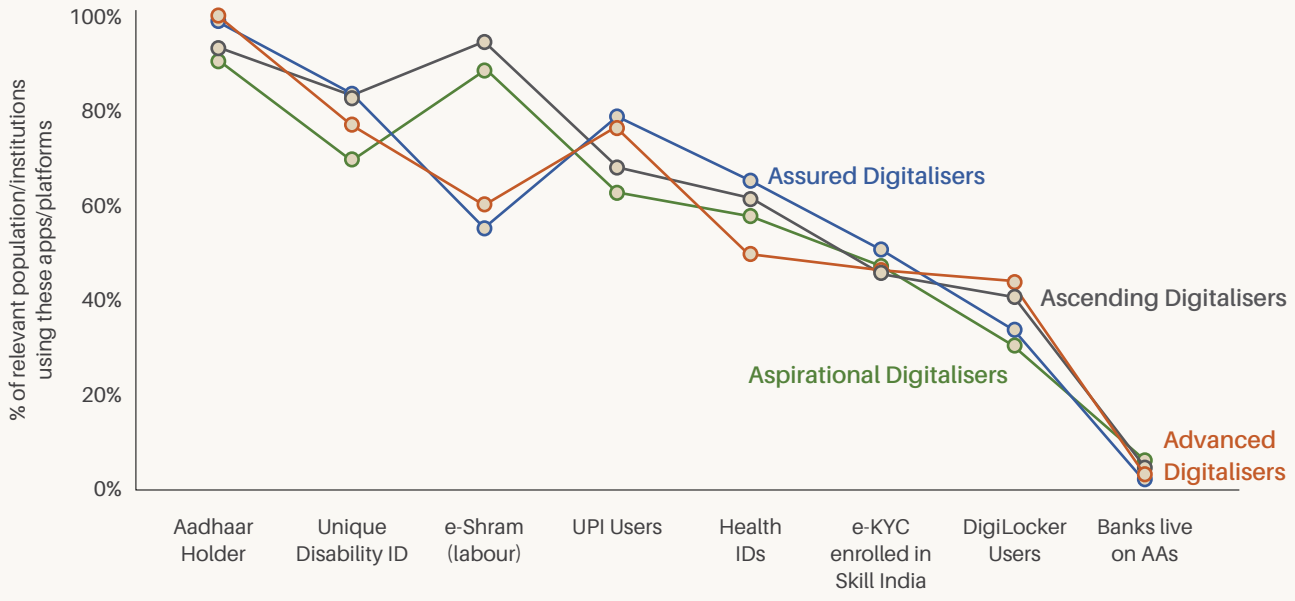
The uniformity reflects the market efficiency and network effects of private digital platforms, which transcend state boundaries through affordability (often free), accessibility (tech support) and vernacular adaptation (language support). Even states with low connectivity scores show high adoption rates once users are online, pointing to the low marginal barriers to digital participation, at least for basic digital services, once access is achieved.

Figure 14 More variation between platforms and infrastructures than between states

Top panel: Private Platforms



Bottom panel: Public Platforms and DPIs



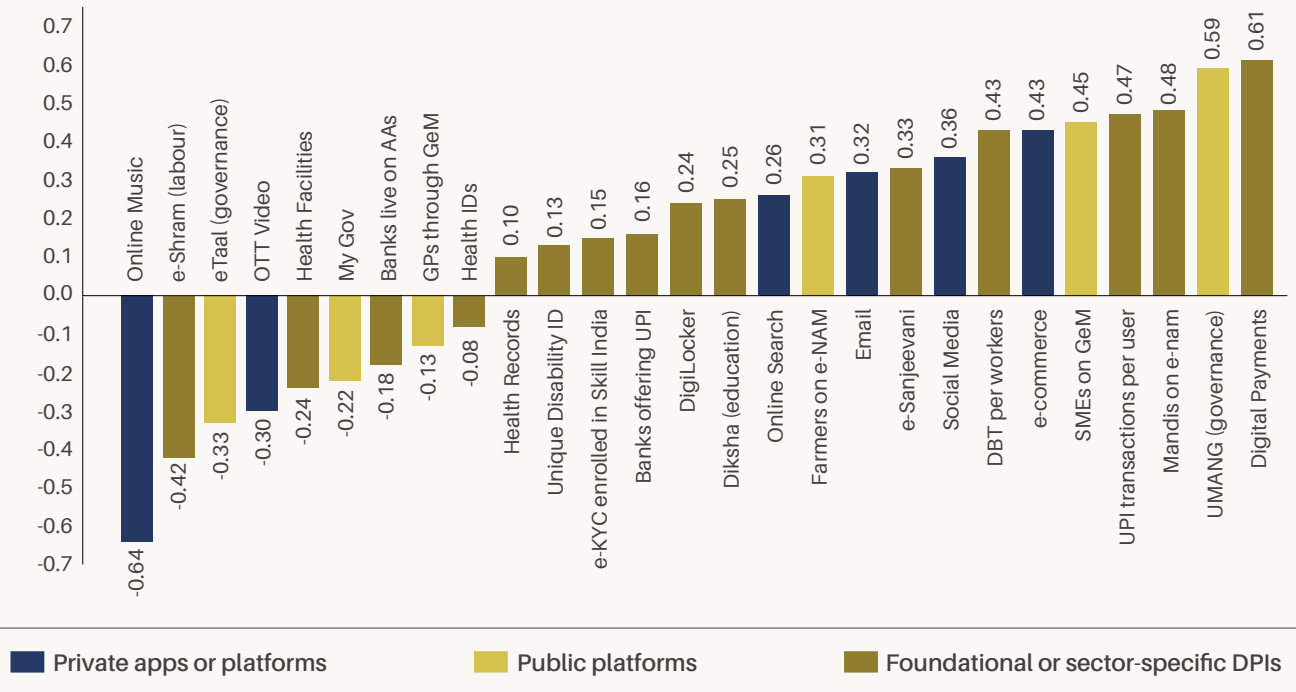
Note: Data for UPI is taken from CMST in order to ensure comparability with the other indicators on DPIs from public sources.
Source: ICRIER-Prosus Centre (IPCIDE)

The same story emerges for public platforms and DPIs, where the variation between types is significantly greater than between states. In other words, certain public platforms (e.g., MyGov or UMANG) and infrastructure (e.g., UPI, Aadhaar) differ sharply in uptake, but state-level differences remain relatively modest. While some DPIs have achieved deep integration into daily life, others remain underutilised, often because of weaker service integration, limited user awareness, or lack of implementation champion. They also indicate that product design, relevance and user interface quality may matter more than state-level factors in explaining adoption. Therefore, future policy efforts should focus less on state differentials and more on strengthening underperforming DPIs to enhance nationwide impact.

Economic prosperity is no longer the primary determinant of digital participation in India. The evidence shows that the use of digital platforms and infrastructure is largely independent of ownership (public or private) and of a state's per-capita income (see Figure 15). Richer states do not necessarily use private platforms more, nor do poorer states rely disproportionately on DPIs. Instead, both types of digital services are widely adopted across income levels, signalling a broad-based diffusion of digital behaviour. What seem to matter more than income are financial and digital literacy, and skills of the users. The availability of low-cost smartphones, cheap data, free services and interoperable platforms has allowed even low-income states to achieve comparable adoption rates. India's ability to harness digital technologies thus exhibits an income-neutral character, reinforcing their potential as a mass-level, inclusive transformation.

Figure 15 Coverage is independent of ownership or income level

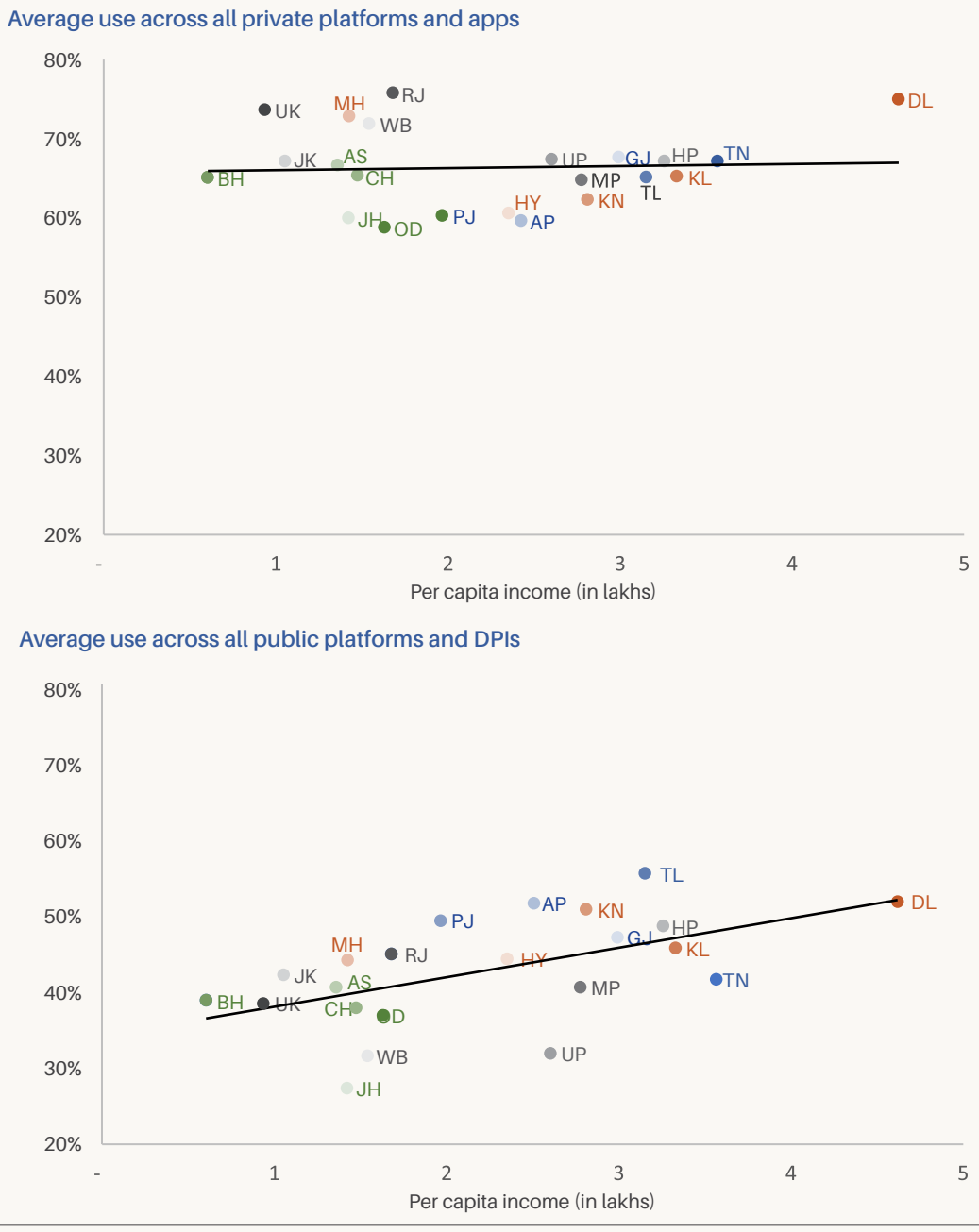
Correlation coefficient between the state's per capita income and use of the platform or app by the relevant population



Note: Per capita income is proxied by Net State Domestic Product (NSDP) per capita in current prices (2023-23)
Source: ICRIER-Prosus Centre (IPCIDE)

When it comes to democratising harness, the private platforms seem to be a bigger equalising force than the DPIs. We find clear convergence among states in the use of private apps and platforms meaning poorer states are catching up rapidly with richer ones – but no similar convergence for public platforms and DPIs (see Figure 16). The usage of DPIs remains more uneven with stronger uptake in certain states and slower progress in others. This divergence suggests that while market forces naturally promote diffusion and competition in the private sphere, public digital adoption depends more on state capacity and implementation quality. Without targeted interventions, lagging states may continue to fall behind in leveraging DPIs. The data thus underline the need for greater policy focus on subnational capacity building to achieve balanced digitalisation.

Figure 16 Convergence in Private Platforms, Not in Public Infrastructures



Source: ICRIER-Prosus Centre (IPCIDE)

The mass popularity and near-universal reach of private apps and platforms — especially when compared with their public-sector counterparts — should not come as a big surprise. Private digital platforms tend to offer entertainment, social connectivity, and on-demand content, making them highly attractive to younger users. They are also free at the point of use, which further lowers barriers to adoption. In contrast, public platforms and DPIs are designed with specific policy or administrative objectives in mind. Their use cases are functional — identity verification, service delivery, grievance redress, skills development, or financial inclusion — which naturally appeal to only a narrower subset of users and are invoked less frequently in day-to-day life.

Moreover, the universalisation of private apps carries an important trade-off. Their widespread use is often underpinned by extensive data collection practices, which can compromise user privacy. By contrast, the data held within public platforms and DPIs has so far been protected by a combination of legal safeguards and institutional norms that prohibit commercial harvesting. This trade-off highlights an important opportunity: to design digital ecosystems where widespread usage does not come at the expense of user privacy.

Conditional vs Unconditional Convergence

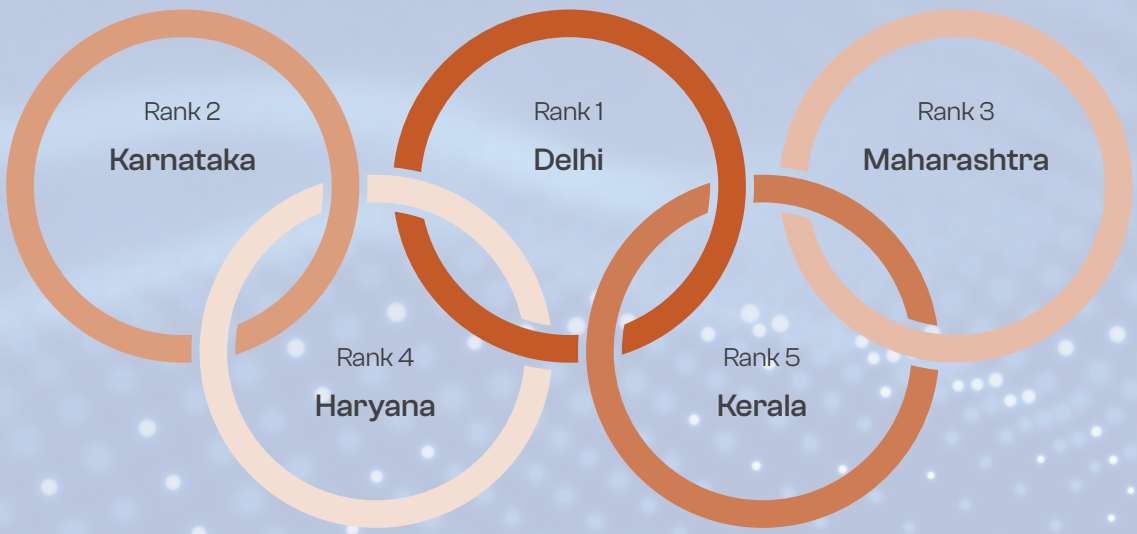
The convergence we see in the harness pillar comes with an important caveat. We measure "harness" as the use or adoption of digital technologies, which has two parts: coverage (how many people are connected to the internet) and usage (how many connected people actually use digital services). Our finding so far is that usage is converging – once people have access, they use digital services at roughly similar rates across states. However, as discussed in the previous chapter, coverage itself is not converging. Smartphone and internet penetration still vary widely across states and between rural and urban areas within each state. This means that when we combine the two, coverage and usage, there is no unconditional convergence.

In simple terms: once people get online, they are equally able to make use of digital technologies, no matter which state they live in. The real barrier in many states is not usage, but getting people connected in the first place.

04

Innovate Pillar

The Top Five States in Digital Innovations in 2025



Islands of Innovation in a Sea of Digitalisation

Innovation in India remains geographically uneven, with a few states driving most of the activity. States that host major IT hubs, such as Delhi, Karnataka, and Maharashtra, account for the bulk of start-up investments, underscoring the concentration of entrepreneurial energy in a handful of regions. In contrast, knowledge production – measured by the establishment of innovation labs, top universities and patent producing digital start-ups – appears more widely distributed across the country. However, not all states have been able to convert their knowledge creation into tangible investments and a thriving start-ups ecosystem. As a result, the innovate pillar emerges as the least democratic among all, exhibiting the widest gap between the best and weakest performers.

In the Indian context, and for this report, the innovate pillar comprises of two sub-pillars, supported with seven underlying indicators as shown below:

Sub-pillar 1

Investments, Start-ups and Business Innovation (four indicators)[17]

- Share of digital recognised start-ups in total recognised start-ups[18]
- Tech start-up investment as a share of NSDP
- Digital start-ups per digital incubator
- Proportion of MSMEs using IOT in business operations[19]

Sub-pillar 2

Knowledge Production (three indicators)

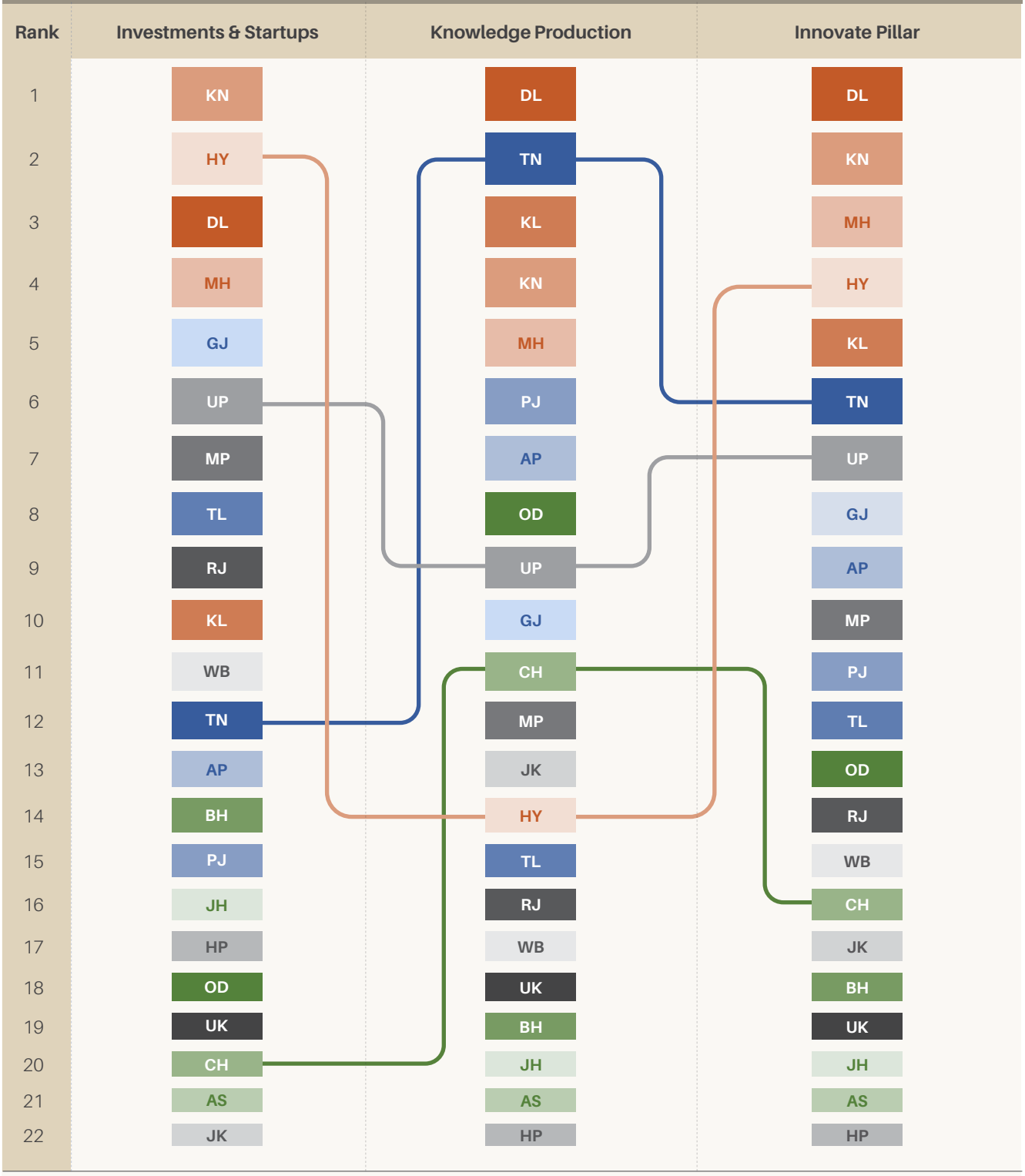
- Percentage of secondary schools having tinkering labs by Management, 2024-25
- Number of top 100 universities
- Share of patented digital recognised start-ups in total digital recognised start-ups

[17] Start-ups are recognised by DPIIT as per the criteria indicated in Start-up India Scheme.

[18] The digital recognised start-ups are from the following 66 sectors: 3D printing, Adtech, Agri-Tech, Application Development, Assistance Technology, Big Data, Bitcoin and Blockchain, BPO, Business Intelligence, Clean Tech, Clean Technology, Cloud, Computer & Electronic Retailers, CXM, Cyber Security, Data Science, Digital Marketing (SEO Automation), Digital Media, Digital Media Blogging, Digital Media News, Digital Media Publishing, Digital Media Video, Drones, E-commerce, E-learning, Education Technology, Electronics, Enterprise Mobility, ERP, Fashion Technology, Food Technology/Food Delivery, Healthcare IT, Healthcare Technology, Integrated communication services, Internet/Web Services, IT Consulting, IT Management, IT Services, KPO, Machine Learning, Manufacturing of Electrical Equipment, Mobile, Mobile wallets Payment, Natural Language Processing, Network Technology Solutions, NLP, New-age Construction Technology, Online Classified, P2P Lending, Payment Platforms, Professional Information Services, Retail Technology, Robotics Application, Robotics Technology, SCM, Semiconductor, Smart Home, Social Commerce, Social Media, Space Technology, Telecommunications, Virtual Games, Wearables, Web Design, Web Development, Wireless.

[19] This data has been taken from Vodafone India's "Vi Business MSME ReadyForNext" assessment tool: ReadyForNext Assessment link

Figure 17 Unpacking the state rankings for innovate pillar



Note: AP: Andhra Pradesh, AS: Assam, BH: Bihar, CH: Chhattisgarh, DL: Delhi, GJ: Gujarat, HY: Haryana, HP: Himachal Pradesh, JK: Jammu & Kashmir, JH: Jharkhand, KN: Karnataka, KL: Kerala, MP: Madhya Pradesh, MH: Maharashtra, OD: Odisha, PJ: Punjab, RJ: Rajasthan, TN: Tamil Nadu, TL: Telangana, UP: Uttar Pradesh, UT: Uttarakhand, and WB: West Bengal
Source: ICRIER-Prosus Centre (IPCIDE)

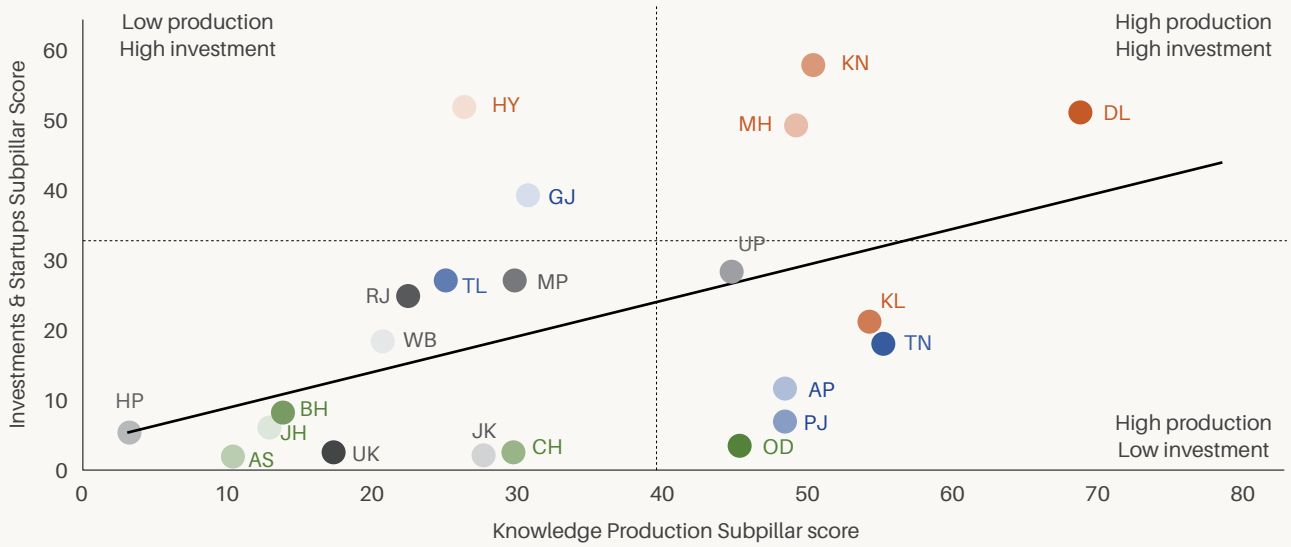
Innovation is driving digital performance of states

The states' rankings under the innovate pillar closely mirror their overall rankings on digitalisation, suggesting that innovation remains a key driver of digital performance for states in India. Nearly all of the top ten states in overall digitalisation also feature among the top twelve performers in the innovate pillar, with only Uttar Pradesh and Madhya Pradesh as exceptions. Delhi, Karnataka, Maharashtra, Haryana and Kerala lead the rankings, reflecting their strong ecosystems for research, start-ups, and investment (see Figure 17). The ascending digitalisers underperform in this dimension; five of them, including Uttarakhand, Rajasthan, Himachal Pradesh, Jammu & Kashmir and West Bengal, fall within the bottom nine.

Investment and startup activity more diverged than knowledge production

Economically advanced states such as Delhi, Karnataka, Maharashtra and Haryana rank consistently at the top, reflecting their strong ecosystems both for research as well as investment, and start-up activity (see Figure 18). These states benefit from dense networks of universities, incubators and venture capital, which together foster business innovation and technological advancement. In contrast, several aspirational and ascending digitalisers, including Odisha,

Figure 18 Only few states have managed to translate their digital infrastructure to higher investment in startups



Note: AP: Andhra Pradesh, AS: Assam, BH: Bihar, CH: Chhattisgarh, DL: Delhi NCR, GJ: Gujarat, HY: Haryana, HP: Himachal Pradesh, JK: Jammu & Kashmir, JH: Jharkhand, KN: Karnataka, KL: Kerala, MP: Madhya Pradesh, MH: Maharashtra, OD: Odisha, PJ: Punjab, RJ: Rajasthan, TN: Tamil Nadu, TL: Telangana, UP: Uttar Pradesh, UT: Uttarakhand, and WB: West Bengal
Source: ICRIER-Prosus Centre (IPCIDE)

Jharkhand and Chhattisgarh, score relatively higher in knowledge production but lag in translating that knowledge into investments and entrepreneurial outcomes. This suggests that while the foundations for innovation are spreading, the capacity to incubate and commercialise ideas remains concentrated in a few leading hubs.

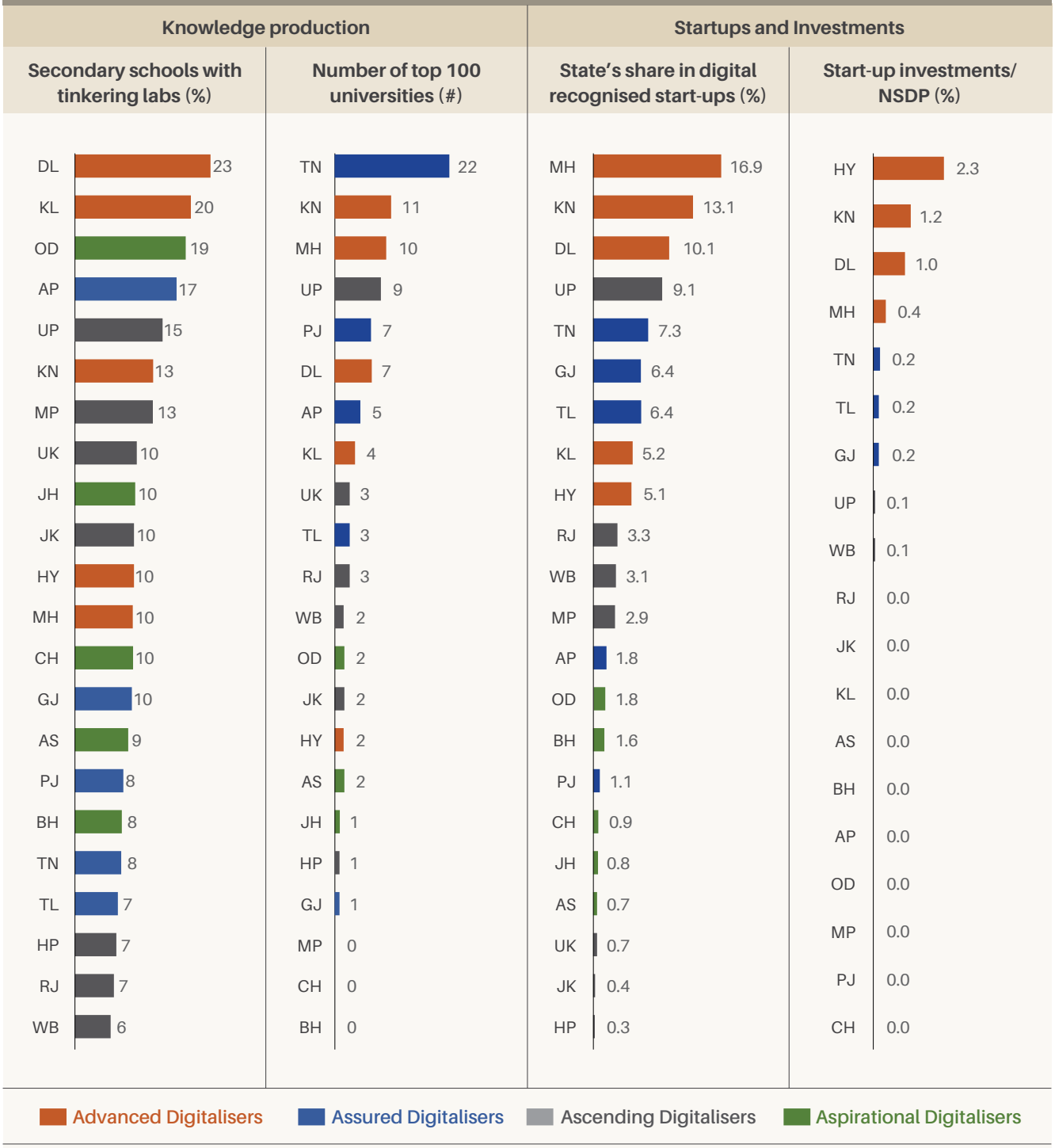
At the other end are states such as Assam, Bihar and Jammu & Kashmir that perform poorly both in knowledge production and investments. Consequently, they rank the lowest, underscoring persistent regional disparities in innovation capacity. Interestingly, some mid-performing states, especially Uttar Pradesh, show signs of improvement, probably due to proactive government initiatives that promote start-ups and digital entrepreneurship. The evidence, therefore, illustrates a dual trend: while India's innovation landscape is dominated by a few high-performing states, there is gradual convergence from below as far as knowledge infrastructure is concerned.

As discussed, start-ups and digital-economy investments remain heavily concentrated in a few regions (see right panels of Figure 19). Haryana (Gurugram), Karnataka (Bangalore), Delhi (NCR) and Maharashtra (Mumbai) dominate both the share of recognised digital start-ups and investment relative to state output (NSDP), while most other states record negligible activity. This disparity indicates that the translation of knowledge into commercial innovation through entrepreneurship is still limited to a handful of high-capacity hubs. In short, while India's knowledge production is widespread, its start-up and investment landscape is geographically concentrated underscoring the need for policies that help emerging states convert their growing intellectual resources into tangible entrepreneurial outcomes.

These evidences point to the fact that Indian states are at a different stage of maturity when it comes to building their own innovation ecosystems or being part of the national eco-system. While many states have made progress in building innovation infrastructure, such as networked schools, renowned universities, digital incubators, etc., only a handful have been successful in converting this foundation into tangible start-up activity. States like Delhi, Karnataka and Maharashtra stand out as clear leaders, exhibiting both strong infrastructure and high levels of start-up investment. Their performance suggests that infrastructure alone is not sufficient; a supportive ecosystem comprising entrepreneurial culture, venture capital availability, and business-friendly governance is critical to translating digital readiness into innovation-led growth.

In contrast, several states that have made substantial investments in innovation infrastructure, such as Andhra Pradesh, Punjab and Odisha, continue to lag behind in start-up formation and investment intensity. This mismatch points to a disconnect between infrastructure creation and innovation enablement, implying that policy focus in these states should shift from "building" to "utilising." Overall, evidence points to unevenness in India's innovation ecosystem, with only a few states managing to fully leverage their digital assets into economic and entrepreneurial dynamism.

Figure 19 While knowledge production is evenly distributed across states, the startups and investments in digital economy is fairly concentrated



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Source: ICRIER-Prosus Centre (IPCIDE)

Differing pathways to building innovation capabilities

Haryana and Tamil Nadu illustrate two contrasting pathways to building strong innovation ecosystems. Haryana has focused primarily on attracting start-ups and investments, establishing itself as a hub for digital entrepreneurs, while investing less in expanding its knowledge and skill infrastructure. Tamil Nadu, by contrast, has concentrated on building world-class universities and well-networked schools, which has helped it attract global manufacturing firms, but it remains relatively less successful in drawing digital start-ups compared to Haryana or Karnataka.

The discussion so far suggests that states will have to carve distinct pathways to strengthen their innovation ecosystems. For instance, Tamil Nadu hosts 22 of India's top 100 universities, yet accounts for only 7.3 per cent of digitally recognized start-ups, and start-up investments comprise barely 0.2 per cent of the state's output. It, therefore, needs to attract more digital firms and encourage existing ones to scale up their investments. Similar challenges are evident in Andhra Pradesh, Madhya Pradesh and Odisha, which have built solid knowledge foundations but lag in translating them into entrepreneurial activity. In contrast, Gujarat and Haryana perform well on start-up formation and investment, but invest relatively little in expanding knowledge infrastructure. Uttar Pradesh, which seems to be in a distinct category of its own, performs reasonably well across all dimensions and should continue pursuing its current policies to consolidate and expand its emerging innovation ecosystem.

Thus, India's innovation ecosystem remains fragmented at the subnational level, revealing a disconnect between knowledge creation and entrepreneurial outcomes across states. Knowledge production is far more evenly distributed, with states such as Tamil Nadu, Maharashtra and Karnataka leading the way, but several smaller or less industrialised states (e.g., Uttar Pradesh) also demonstrating meaningful progress in building research and educational infrastructure. This broad base of educational and research capacity implies that many states are succeeding in building the foundational elements of innovation nationwide.

The differing pathways adopted by states reflect the logic of strategic specialisation, with each state focusing on its comparative advantages while drawing on talent, capital, and knowledge flows from elsewhere. Such interdependence—rather than self-sufficiency—offers a more efficient and sustainable approach to strengthening India's overall innovation landscape.

Concentrated innovation: A Strength or a Weakness?

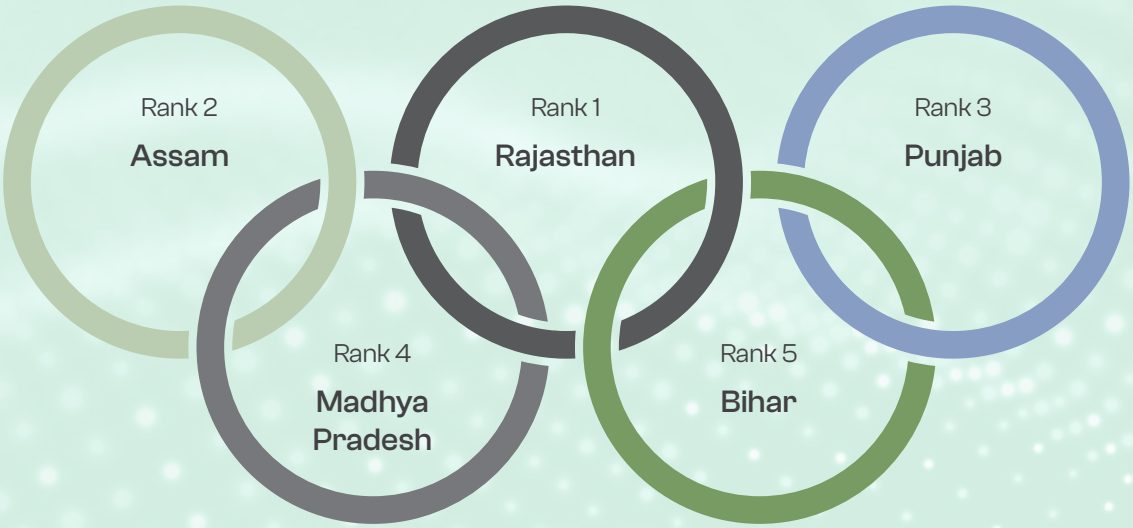
Is a concentrated innovation ecosystem necessarily a bad thing? Not at all. In a relatively poor country like India, where capital is scarce and the start-up culture is still emerging, it can be strategic to nurture islands of successful innovation rather than spreading limited resources thinly across all regions. Concentration allows ecosystems to reach critical mass, build networks and demonstrate proof of concept. However, this strategy should be transitional, with a long-term goal of fostering healthy competition among states, encouraging them to attract entrepreneurs and investments through better policies and ease of doing business. Moreover, it is unrealistic to expect every region

to perform equally well in generating start-ups or attracting capital; some inter-state disparity in innovation is both inevitable and, to an extent, desirable. What truly matters is ensuring that residents across all states have equal opportunities to acquire knowledge and skills, enabling them to innovate within their home states or migrate to regions offering a more supportive business environment.

05

Protect Pillar

The Top Five States offering most protection from digital harms in 2025



More Digitalisation, Less Protection

The inability to protect citizens from digital harms risks impeding India's digitalisation progress. India's digitalisation has been a remarkable success story, but its weakest link remains its inability to provide adequate defence against the darker side of the internet: cybercrimes, online frauds, privacy breaches, misinformation and fake news, and even the threat of digital warfare. There has been a 400 per cent increase in cybercrimes between 2021 and 2024, the fastest increase in digital crimes globally.[20] Our analysis reveals a striking paradox: the states that are the most digitalised are also the most exposed. Their citizens face the highest risk of digital attacks without commensurate protection. Because many of these threats are cross-border – not only across state lines but also across national boundaries – and are real-time and highly sophisticated, even the best-resourced and capable states are struggling to shield their citizens from harm. The result is a growing national vulnerability that needs urgent attention.

The protection ranking runs counter to the overall digitalisation ranking. None of the top five states offering their residents the greatest protection, namely, Rajasthan, Assam, Punjab, Madhya Pradesh, and Bihar, are advanced digitalisers. They perform well not because they have superior defences, but because their modest protection is sufficient in the face of relatively low levels of digital attack.[21] In contrast, while richer and more digitalised states may have somewhat stronger defences, they face far more frequent attacks, resulting in a low overall level of protection. Accordingly, the three lowest-ranked states on the protect pillar are Karnataka, Tamil Nadu, and Telangana.[22]

The protect pillar comprises of two sub-pillars, supported with six underlying indicators as shown below:

Sub-pillar 1

Risk of Attack (two indicators)

- Cyber fraud cases per 1000 internet users
- Cyber fraud amount per incident

Sub-pillar 2

Preparedness (four indicators)

- Cyber fraud amount refunded (cumulative)
- Ability to complain about cybercrime
- Gender gap in ability to complain
- Urban rural gap in ability to complain

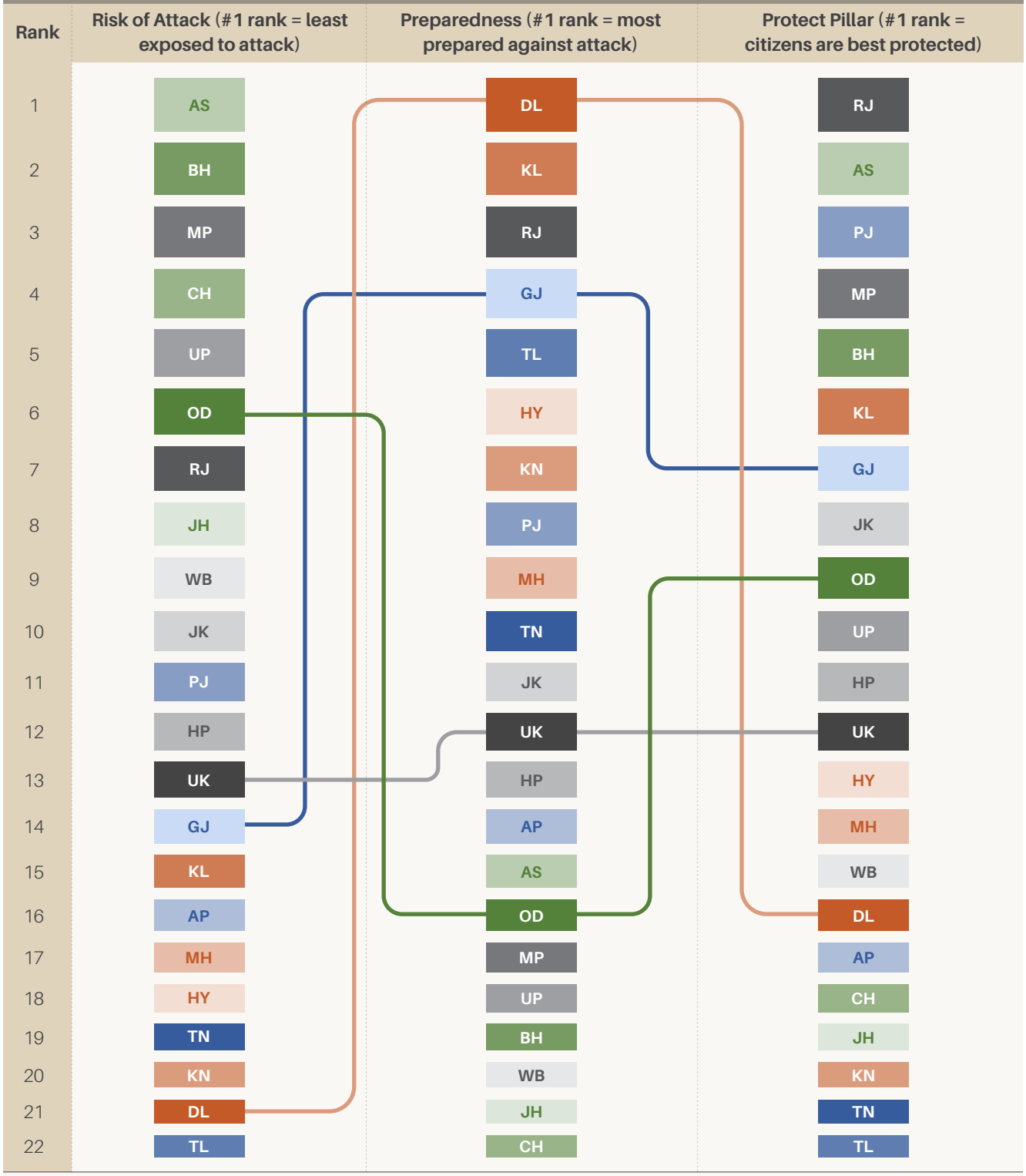
We have assigned a lower weight to the protect pillar relative to the other three pillars, as data on its suffer from two key limitations. First, low-income states face a lower risk of digital attacks simply because they are poor and less digitalised; hence, their high scores cannot be taken at face value as high levels of protection. Second, while digital harm takes many forms, the available data is heavily skewed towards financial crimes involving digital technologies and leaves out other kinds of cybercrimes and other forms of digital harm. For these reasons, the protect pillar is assigned a lower weight (5 per cent) when calculating the overall CHIPS score, compared to the 30 per cent weight given to the connect, harness, and innovate pillars.

20 The Indian Express. (2025, August 7).

21 For example, Rajasthan is known for the highest number of financial frauds and Bihar for the highest ATM frauds (see Kshitiz. (2025, October 9). NCRB: Bihar reports 4,450 cybercrime cases in 2023, tops nation in ATM fraud. The Times of India).

22 Several studies have made similar observations. For example, according to the India Cyber Threat Report 2025, Telangana, Tamil Nadu, Gujarat (Surat), Karnataka (Bengaluru) and Rajasthan (Jaipur) are the geographical hotspots for detected crimes (see Data Security Council of India (DSCI), Seqrite, & Godse, V. (2025). India Cyber Threat Report 2025).

Figure 20 Unpacking the state rankings for protect pillar



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Source: ICRIER-Prosus Centre (IPCIDE)

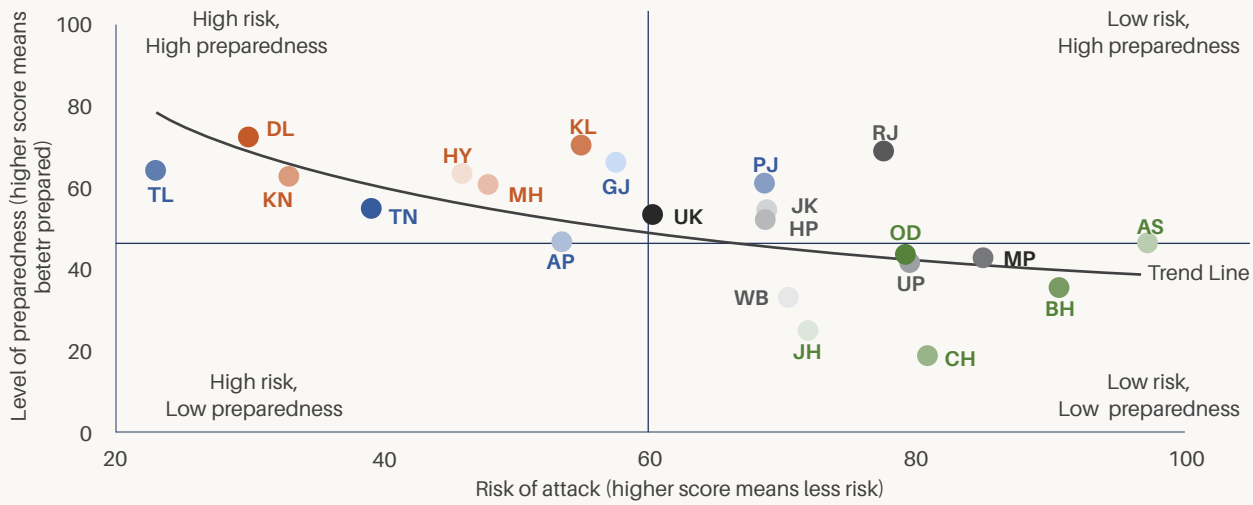
Protection seems to fail everyone, one way or another

While on average, advanced digitalisers rank low on protection, the top performing states are a mix of all categories. Among the top ten states, only one is an advanced digitaliser (Kerala, ranked 6th); two are assured digitalisers (Punjab–3rd and Gujarat–7th); four are ascending digitalisers (Rajasthan–1st, Madhya Pradesh–4th, Jammu & Kashmir–8th, and Uttar Pradesh–10th); and three are aspirational digitalisers (Assam–2nd, Bihar–5th, and Odisha–9th). A similar lack of pattern is seen at the bottom of the ranking. The ten lowest-performing states, i.e., those whose citizens are least protected from digital harm, also include representatives from all four categories of digitalisers, with seven out of ten being either advanced or assured digitalisers (see Figure 20).

The lack of an expected pattern in the protect pillar arises because the risk of attack and the level of preparedness often move in opposite directions. Take Bihar: its residents face the second-lowest risk of cyberattacks in India, after Assam. Yet when attacks do occur, the state's cyber-defence preparedness ranks 19th, the fourth lowest in the country (see Figure 20). At the other extreme is Delhi, which has the highest level of cyber preparedness among all Indian states. But its citizens also face the second-highest frequency of attacks in the country. In other words, for many states, the risk of attack and the level of preparedness lie at opposite ends of the spectrum, resulting in a more or less constant level of effective protection across states, visualised as a hyperbola in Figure 21.

An alternate way to unpack the protect pillar is by a 2 by 2 matrix as shown in Figure 22. Out of the four quadrants, all advanced and assured digitalisers except Punjab are in the second quadrant, exhibiting a high risk of attack and a high level of preparedness (relative to Indian conditions). All the aspirational digitalisers are on the opposite quadrant, whose residents live in an environment characterised by low risk of attack and low preparedness. The third group of states, comprising largely of ascending digitalisers, are in the quadrant marked by low risk and high preparedness, which offers the best level of protection in the Indian context.

Figure 21 Most Indian states provide more or less constant level of protection across states, as envisaged by a hyperbolic trend line

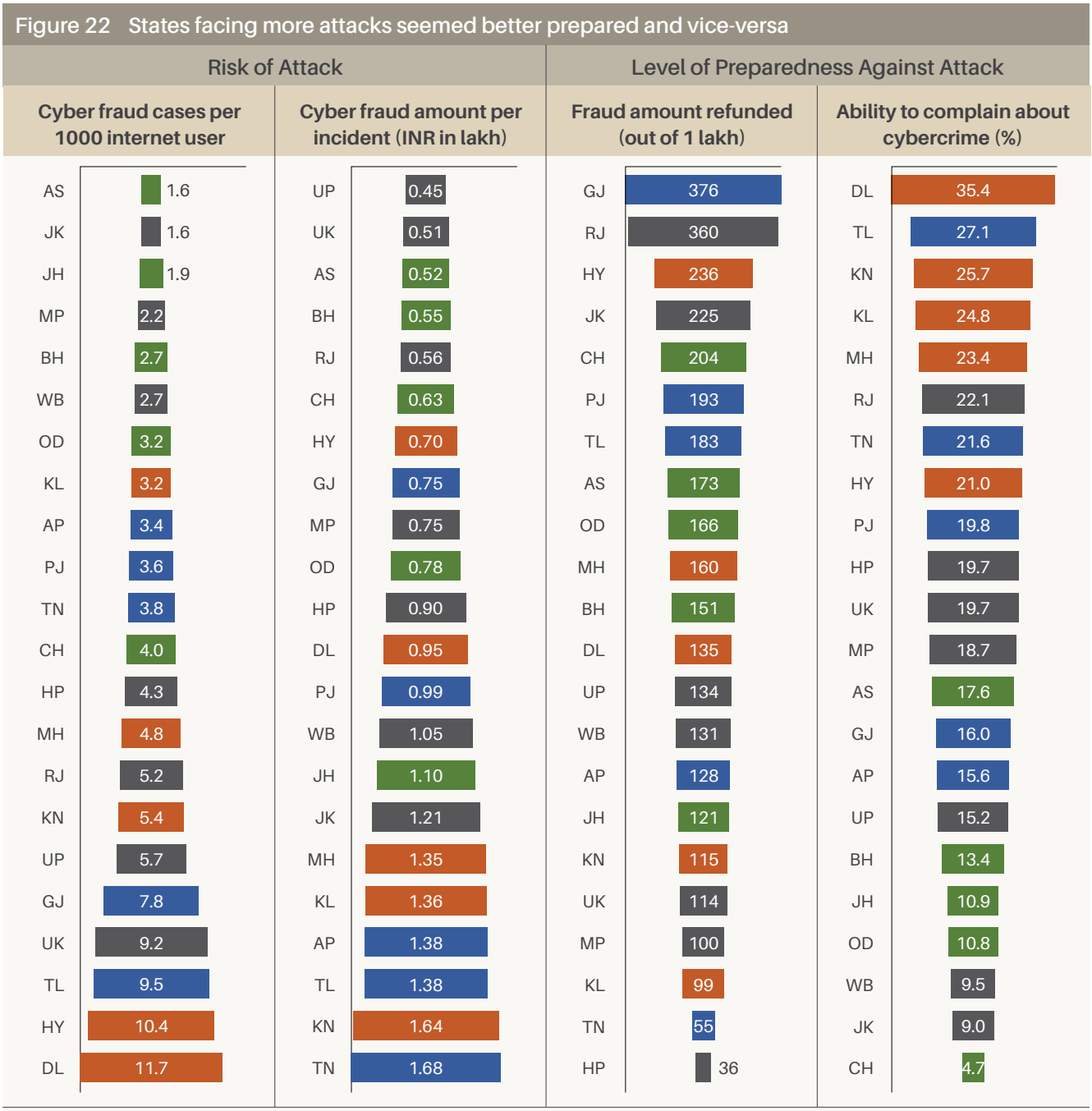


Notes: AP: Andhra Pradesh, AS: Assam, BH: Bihar, CH: Chhattisgarh, DL: Delhi, GJ: Gujarat, HY: Haryana, HP: Himachal Pradesh, JK: Jammu & Kashmir, JH: Jharkhand, KN: Karnataka, KL: Kerala, MP: Madhya Pradesh, MH: Maharashtra, OD: Odisha, PJ: Punjab, RJ: Rajasthan, TN: Tamil Nadu, TL: Telangana, UP: Uttar Pradesh, UT: Uttarakhand, and WB: West Bengal
Source: ICRIER-Prosus Centre (IPCIDE)

Cybercrime is both expansive and expensive

According to the National Cyber Crime Reporting (NCCR) portal, nearly five out of every 1,000 internet users in India have been victims of cybercrime.[23] The problem is far more acute in higher-income states; in Delhi, Haryana, Telangana and Uttarakhand, around 10 out of every 1,000 internet users reported being victims in 2024.[24] By contrast, the states with the lowest reported cybercrimes are mostly low-

Figure 22 States facing more attacks seemed better prepared and vice-versa



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Cyberfraud cases, amount reported and amount refunded are all as reported on the National Cyber Crime Reporting Portal, cumulative since August 2019 to February 2025.
Source: ICRIER-Prosus Centre (IPCIDE)

[23] National Cyber Crime Reporting Portal.
[24] National Cyber Crime Reporting Portal.

income ones, including Assam, Jammu & Kashmir, Jharkhand, Madhya Pradesh and Bihar (see leftmost panel, Figure 22).[25]

The average financial loss from a cybercrime in India nearly INR 1 lakh, about half the country's annual per capita income in 2024. The five states with the highest average losses are all in the south: Tamil Nadu (INR 1.68 lakh), Karnataka (INR 1.64 lakh), Telangana and Andhra Pradesh (INR 1.38 lakh each), and Kerala (INR 1.36 lakh). While the absolute losses are lower in low- and middle-income states – about INR 45,000 in Uttar Pradesh, for example – these losses represent a much larger share of residents' incomes than in richer states (see second column in Figure 22). In short, cybercrime is an equal-opportunity offender, imposing heavy costs on both poor and rich states alike.

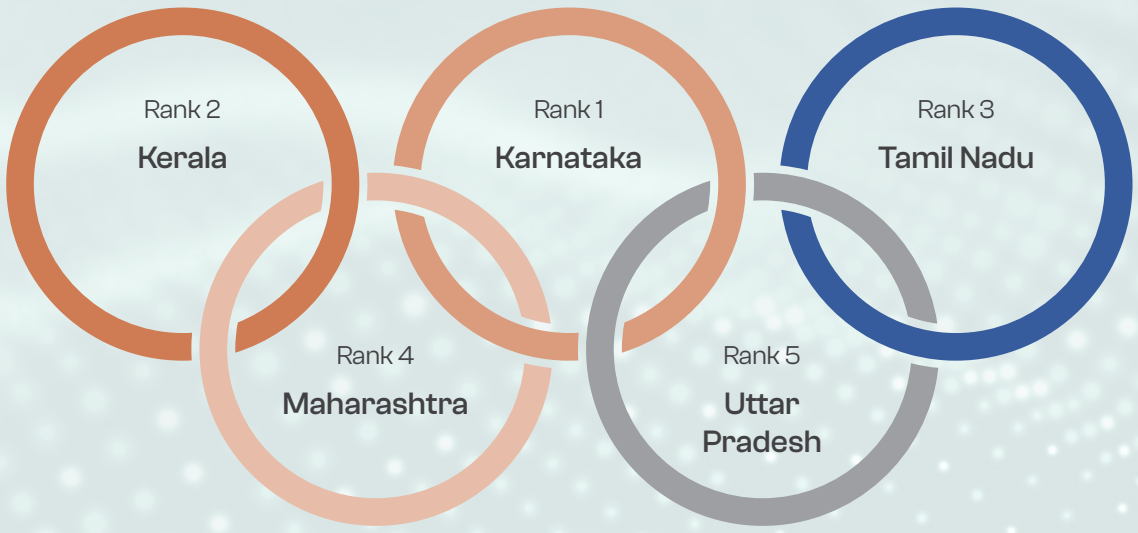
Most states fail to provide an adequate level of preparedness against digital harm. Take Gujarat: it is the best-performing state in terms of recovering money lost to cybercrime. Yet even Gujarat manages to recover only INR 376 for every INR 1 lakh lost – a recovery rate of just 0.376 per cent. At the other end of the spectrum is Himachal Pradesh, which recovers only INR 36 per INR 1 lakh lost. When it comes to reporting cybercrimes, high-income states perform better. Delhi, Telangana, Karnataka, Kerala and Maharashtra occupy the top five positions (see last column of Figure 22). The fact that one in three cybercrime victims in Delhi is able to file a complaint is noteworthy; this is largely due to the complete digitalisation of the reporting process.

[25] From a global perspective, the level of reported cybercrime in India does not appear alarming. For instance, about 53 million Americans were victims of cybercrime in 2022, compared with 4.5 million in India. However, the rate of financial recovery from cybercrimes is many times higher in the United States than in India. For more details see, Imber, D. (2025, November 6). The Latest Cyber Crime Statistics (updated October 2025) | AAG IT Support. AAG IT Services.

06

Sustain Pillar

Top Five States for Sustainable Digitalisation in 2025



The Green Side of India's Digitalisation

The sustain pillar evaluates how India's digital transformation intersects with environmental sustainability, focusing on both the ecological footprint of digital infrastructure and the role of digital technologies in promoting sustainable practices. As India expands data centres, electronics manufacturing and digital infrastructure, environmental sustainability has emerged as a critical test of the quality and long-term viability of its digitalisation. While the growth of data centres and electronics offers economic opportunities, it raises pressing concerns around energy use, e-waste, water stress and carbon emissions. At the same time, digital tools now enable improved resource monitoring, optimisation and protection of natural systems. The sustain pillar captures (1) sustainability within the digital economy's core infrastructure, and (2) the use of digital technologies to advance sustainability outcomes.

Because of data constraints, the indicator set covers two parts of the digital infrastructure value chain – data centres and electronics – and two software markets that support sustainability efforts. The indicator "share of green data centres in the total data centre market" reflects the adoption of renewable energy, energy-efficient systems, environmental certifications and carbon monitoring. Data centres consume large amounts of electricity and water, making their greening crucial for responsible digital expansion. The indicator on sustainable electronics captures products designed to minimise the environmental impact across their lifecycle – use of recyclable or low-toxicity materials, compliance with environmental standards, low energy consumption and lifecycle-sensitive design. This is especially important given India's position as the world's second-largest smartphone market and the fastest growing markets for digital devices.[26,27]

The second set of indicators focuses on the green intensity of key software markets. The energy management software (EMS) market includes digital solutions that monitor, control and optimise energy consumption across industrial, commercial and infrastructure settings. The indicator "share of revenue from green EMS in total EMS revenue" measures software directly contributing to environmental benefits such as reducing carbon emissions, integrating renewables, optimising storage and enforcing energy efficiency standards. The environment, health and safety (EHS) software market includes platforms for compliance, incident tracking, risk assessment and regulatory reporting. The indicator "share of green EHS software revenue in total EHS revenue" isolates platforms embedding environmental sustainability and ESG-aligned features. These software markets often move together within states because they form part of integrated sustainability strategies.

Overall, the sustain pillar consists of four indicators: green data centres, sustainable electronics, green EMS, and green EHS. Because of its narrower indicator base, the sustain pillar is assigned the same weight as the protect pillar, i.e., 5 percent weight in estimating the overall CHIPS score.

[26] Statista, (n.d.)
[27] Digital India (2019); Morgan Stanley(2023).; PricewaterhouseCoopers (2023).

Predictable patterns in state outcomes, with a few surprises

Advanced and assured digitalisers – Karnataka, Kerala, Tamil Nadu and Maharashtra – lead the sustain pillar. They are followed by ascending digitalisers such as Uttar Pradesh, Madhya Pradesh, West Bengal and Uttarakhand. Assured and aspirational digitalisers appear scattered across the rankings (see Figure 23).

Figure 23 Sustain pillar rankings

Rank	Sustain	CHIPS
1	KN	DL
2	KL	KL
3	TN	KN
4	MH	MH
5	UP	HY
6	MP	TN
7	WB	TL
8	AP	PJ
9	UK	AP
10	HY	GJ
11	AS	UK
12	OD	RJ
13	TL	MP
14	GJ	UP
15	JH	HP
16	CH	JK
17	RJ	WB
18	PJ	OD
19		BH
20		CH
21		AS
22		JH

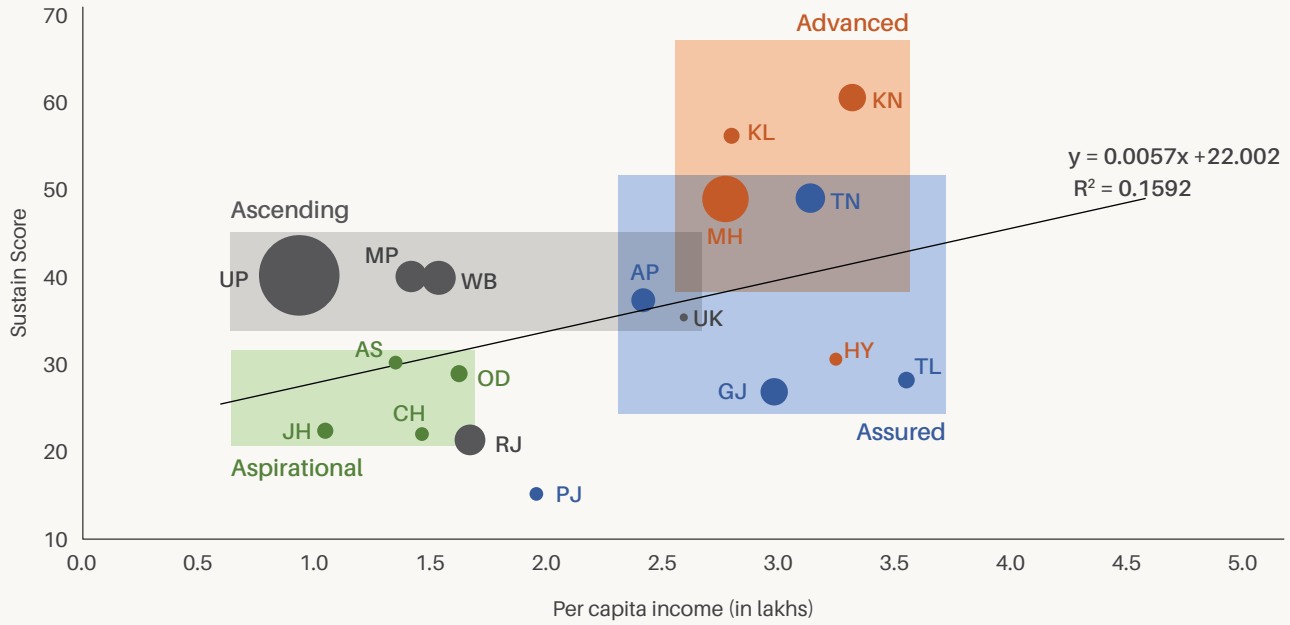
Advanced Digitalisers Assured Digitalisers Ascending Digitalisers Aspirational Digitalisers

Note: AP: Andhra Pradesh, AS: Assam, BH: Bihar, CH: Chhattisgarh, DL: Delhi, GJ: Gujarat, HY: Haryana, HP: Himachal Pradesh, JK: Jammu & Kashmir, JH: Jharkhand, KN: Karnataka, KL: Kerala, MP: Madhya Pradesh, MH: Maharashtra, OD: Odisha, PJ: Punjab, RJ: Rajasthan, TN: Tamil Nadu, TL: Telangana, UP: Uttar Pradesh, UT: Uttarakhand, and WB: West Bengal
Source: ICRIER-Prosus Centre (IPCIDE)

A weakly positive correlation exists between sustain scores and per capita income (Figure 24). As expected, advanced digitalisers cluster at the top, while aspirational digitalisers fall towards the bottom. However, ascending digitalisers outperform their assured counterparts, suggesting leapfrogging effects. These states, which began digitalising later, have integrated sustainability elements into their infrastructure from the outset, benefitting from declining technology costs and maturation of green solutions.

Madhya Pradesh and Uttar Pradesh exemplify this pattern. Both are in the ascending group and rank within the top third for green data centres and sustainable electronics. State policies prioritising renewable energy integration and green infrastructure development, along with recent MoUs and investment agreements, have accelerated the creation of energy-efficient digital infrastructure (Figure 24).[28,29,30]

Figure 24 Ascending states leapfrogging in sustainability



Notes: The size of the bubble is proportional to the population of the state; AP: Andhra Pradesh, AS: Assam, BH: Bihar, CH: Chhattisgarh, DL: Delhi, GJ: Gujarat, HY: Haryana, HP: Himachal Pradesh, JK: Jammu & Kashmir, JH: Jharkhand, KN: Karnataka, KL: Kerala, MP: Madhya Pradesh, MH: Maharashtra, OD: Odisha, PJ: Punjab, RJ: Rajasthan, TN: Tamil Nadu, TL: Telangana, UP: Uttar Pradesh, UT: Uttarakhand, and WB: West Bengal
Source: ICRIER-Prosus Centre (IPCIDE)

However, states that score well on sustainable infrastructure do not always lead in the sustainability-focused software markets. Karnataka and Kerala are exceptions: Karnataka ranks among the top five in green data centres and leads in both software categories, while Kerala leads in sustainable electronics and performs strongly in the software markets.

28 Mondal, S., & Mondal, S. (2025, July 19).
29 Chief Minister of Uttar Pradesh Yogi Adityanath and Union Minister for Science & Technology Dr. Jitendra Singh today lay the foundation stone of state-of-the-art Green Data Centre at Central Electronics Limited (CEL), Ghaziabad, UP. (n.d.)
30 EQ International (2025).

Table 2 States leading within the Sustain pillar					
Rank	Sustain Score	Sustainability of Infrastructure supporting the digital economy		Use of digital technologies to promote sustainability	
		Green Intensity of Data Centres market	Green Intensity of Sustainable Electronics market	Green intensity of Energy Management Software market	Green Intensity of Environment, Health, and Safety Software market
1	Karnataka	Uttarakhand	Kerala	Karnataka	Karnataka
2	Kerala	Madhya Pradesh	Andhra Pradesh	Maharashtra	Maharashtra
3	Tamil Nadu	Uttar Pradesh	West Bengal	Tamil Nadu	Tamil Nadu
4	Maharashtra	Rajasthan	Madhya Pradesh	Kerala	Kerala
5	Uttar Pradesh	Karnataka	Chhattisgarh	Telangana	Telangana

Source: Mordor Intelligence

Notable State-Level Observations

Uttarakhand stands out for its exceptionally high green intensity in data centres. Though its market size is small, its share of green data centres is the highest in India. The state's climate, renewable energy access and strategic location have enabled it to position itself as a renewable energy-driven data centre hub. Recent greenfield projects demonstrate sustainability being incorporated from inception, avoiding the challenges of retrofitting older facilities.

Maharashtra, by contrast, has the largest absolute green data centre and sustainable electronics revenues – almost double the next-largest state – but ranks lower in green intensity (Table 2). The government's newly announced Green Integrated Data Centre parks (USD 20 billion planned investment) and permissions for captive renewable power generation demonstrate efforts to shift the sector. Because Maharashtra hosts 60 per cent of India's existing data centres, retrofitting existing infrastructure will be as important as greening new facilities. The state is a leader in sustainability-oriented software adoption, driven by Smart Cities initiatives and MIDC upgrades. In Pune and Thane, EMS tools are being used to manage peak loads and grid alignment, while EHS platforms are improving regulatory compliance and ESG reporting across sectors such as logistics, manufacturing and pharmaceuticals.

In the sustainable electronics market, Kerala, Andhra Pradesh and West Bengal stand out (Table 2). Andhra Pradesh's electronics manufacturing policy promotes world-class infrastructure, full-value-chain ecosystems and sustainable manufacturing

practices.[31] Kerala's longstanding emphasis on electronics and hardware manufacturing has increasingly incorporated sustainability, including biodegradable electronics, low-emission devices and SME-focused EMS platforms developed through its start-up ecosystem. Both Kerala and West Bengal have strengthened their e-waste collection and recycling systems.[32]

The sustain pillar reflects the consumption-side sustainability of India's digital economy. But to obtain a richer picture, additional indicators capturing the production-side sustainability of digital activities and the broader use of digital technologies to improve environmental outcomes will need to be incorporated when data becomes available.

31 Yuvaraj, N. (2024).
32 Elets eGov. (2025, January 3).

07

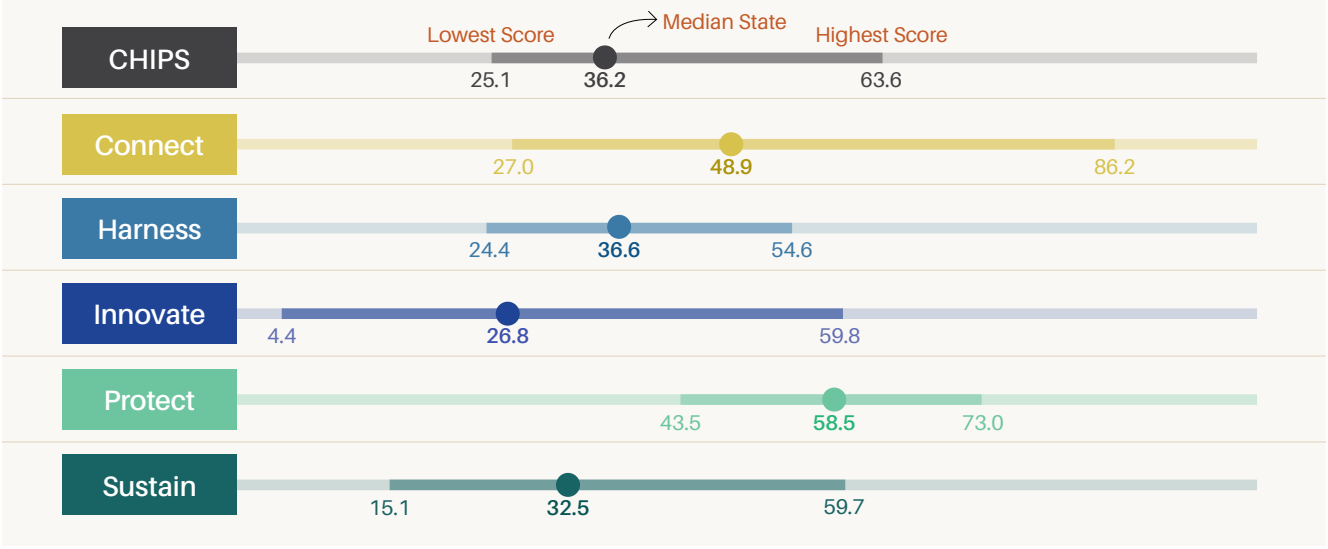
State-Level Digitalisation At-A-Glance

Guide to Reading: State At-A-Glance

An Illustration Using the "Median State"

Overall score and ranking

By design, the overall CHIPS score—and the scores for each pillar (C, H, I, P and S)—range from 0 to 100. In practice, however, a pillar score of 100 is possible only if a state attains the highest value on every indicator within that pillar, since each pillar score is a weighted combination of these indicator-level scores. Similarly, a score of 0 is never observed because no state consistently records the lowest value across all indicators in any pillar.



Digital Pyramid

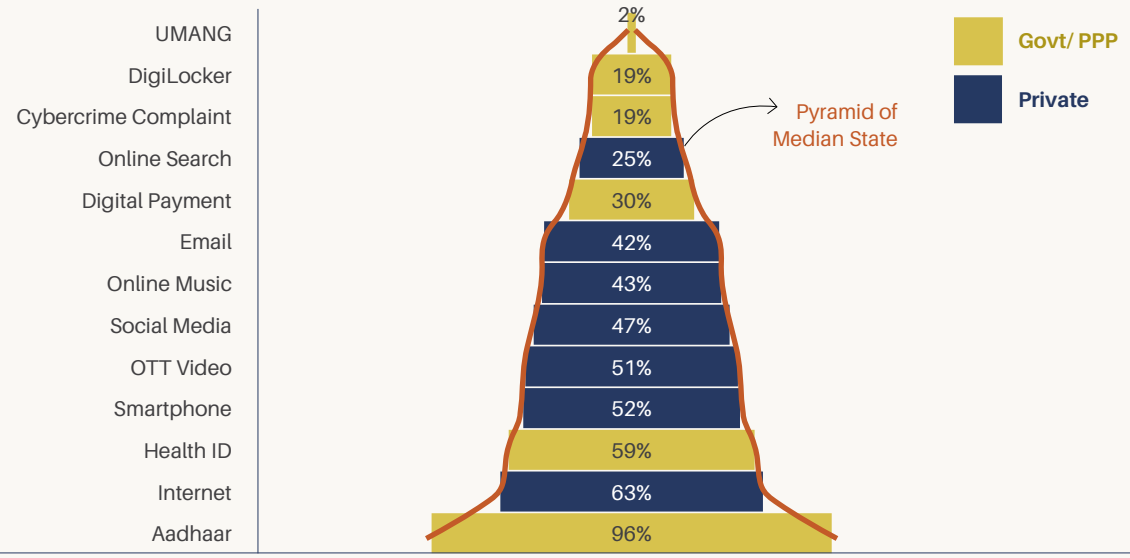
The top chart on the right, henceforth to be referred to as Digital Pyramid given its shape, shows the diffusion of various apps and platforms in the state. Specifically, it shows the percent of population participating in each activity. Aadhaar, India's digital ID, forms the base of the pyramid as the indicator with the highest penetration (96 percent). In order to enable comparison, the order of indicators is kept the same across all states' pyramids and overlaid with an outline of the median pyramid.

Digital Divides

The second graph shows the median values of the urban-rural gap (left) and of the gender gap (right) for each indicator. The order, again, follows that of the first median pyramid. Indicators with the highest penetration (bottom of the pyramid) do not necessarily have the highest divides.

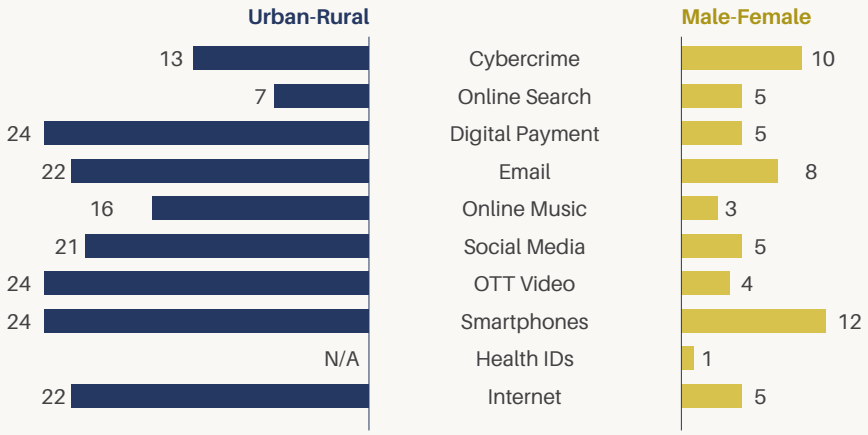
Data for the Digital Pyramids and Digital Divides figures are based on data from Kantar, whereas in the calculation of the CHIPS score, some of these indicators (Internet, Smartphone and Digital payments) are a weighted average of data from two sources (Kantar and CMST).

Digital Pyramid (users as a percentage of population)



Note: Cybercrime complaint refers to % population able to complain about or report cybercrime in the cybercrime reporting portal

Digital Divides (in percentage points)

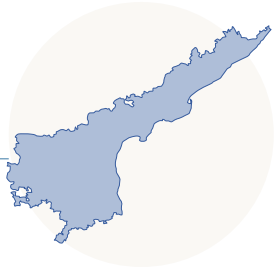


Note: Urban-rural breakdown for health IDs is not available.

State At-A-Glance

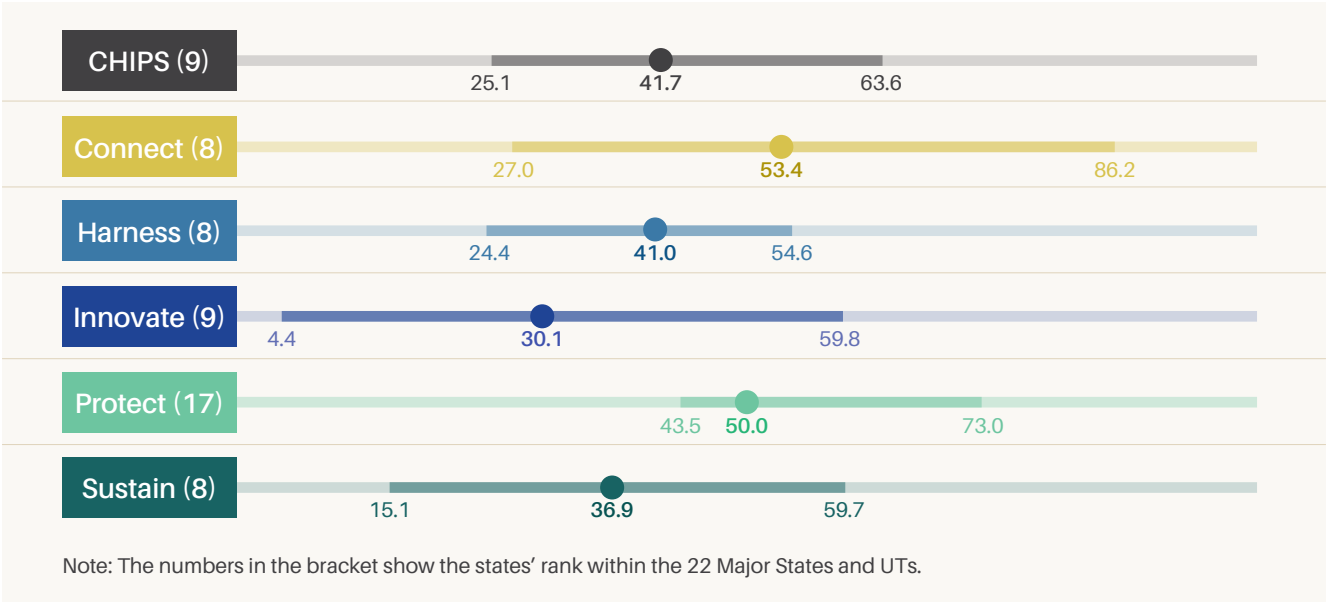
Andhra Pradesh

Harnessing Sectoral DPIs



Overall score and ranking

Ranked as the 9th most digitalised state, Andhra Pradesh is classified as an Assured Digitaliser. It places 8th in the Connect, Harness and Sustain pillars, and 9th in the Innovate pillar.



Note: The numbers in the bracket show the states' rank within the 22 Major States and UTs.

Digital Pyramid

While Andhra Pradesh performs relatively well across most sub-pillars of Connect and Harness, it stands out in its effective leveraging of Digital Public Infrastructures (DPIs). The state has achieved widespread adoption of foundational DPIs, particularly in data exchange, where it has the second-highest share of DigiLocker users and a high share of banks live on the Account Aggregator ecosystem.

Andhra Pradesh is also a national leader in both the coverage and usage of sectoral DPIs in health, education and social welfare. For example, 92 percent of its population has an Ayushman Bharat Health (ABHA) id, far above the major-state median of 59 percent. The state has strongly integrated digital health identities into its public health system and records the highest number of health records linked per ABHA account.[33] It has also proactively aligned its state-level initiatives with centrally led DPIs, which are better captured in our database.[34] The long-standing state digital learning initiative — APeKX (Andhra Pradesh e-Knowledge eXchange) — has been seamlessly integrated with the national DIKSHA platform, resulting in Andhra Pradesh ranking third nationally in active DIKSHA usage.

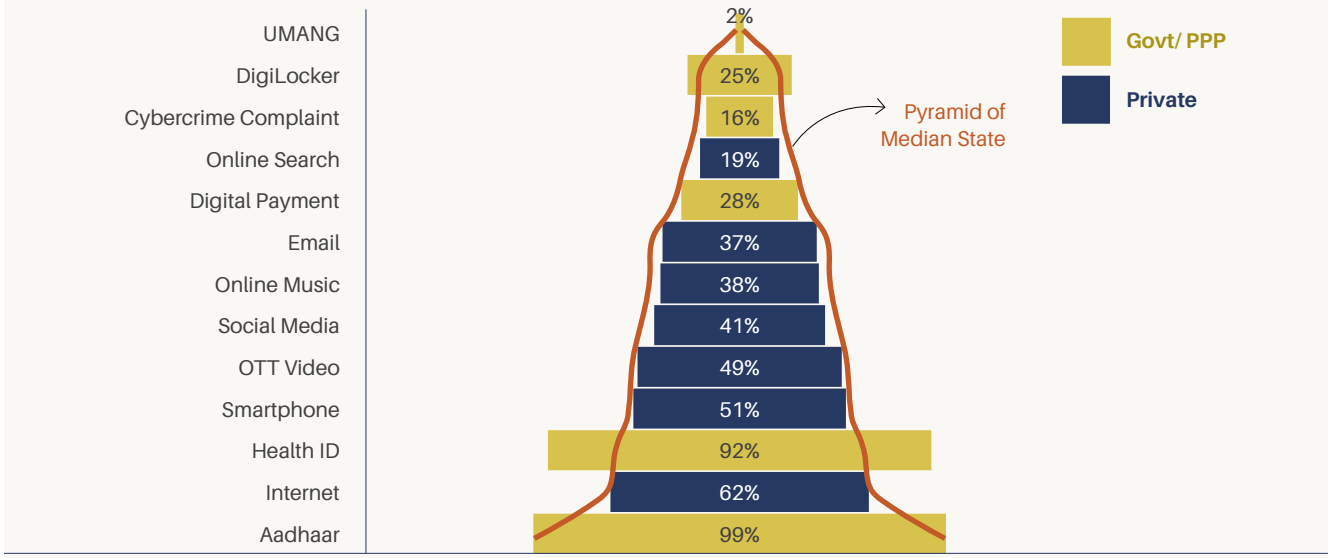
[33] TNN.(2025)
[34] Rao (2025)

Digital Divides

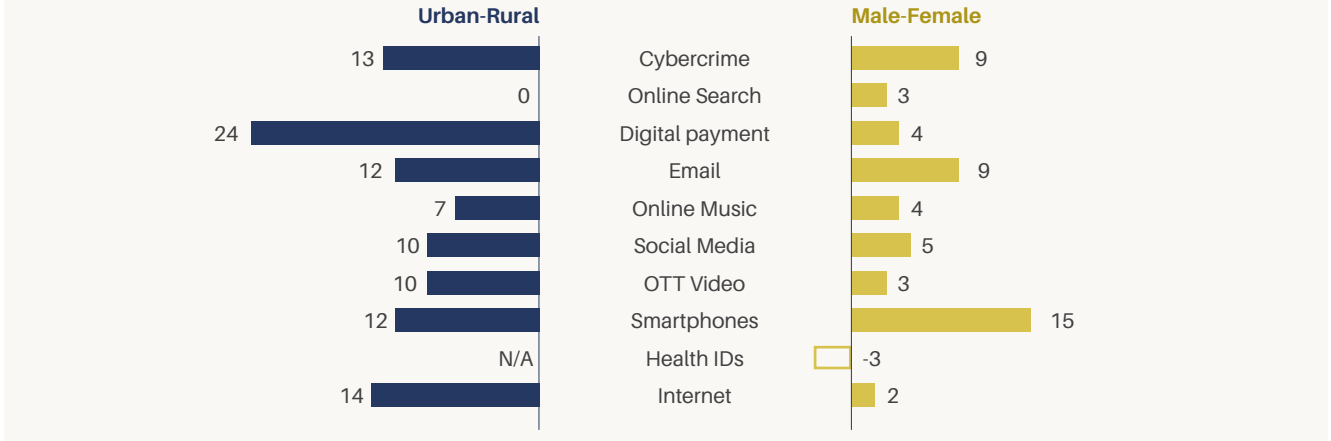
The state however, lags in its use of apps and platforms (ranked 16), and could benefit from greater inclusion in the use of digital technologies. While it does particularly well in terms of closing the urban-rural divides within Harness, it lags on the gender inclusion front.

Andhra Pradesh is also lagging on the Investment, Startups & Business Innovation sub-pillar within Innovate, given its level of digitalisation and performance in the Knowledge Production sub-pillar.

Digital Pyramid (users as a percentage of population)



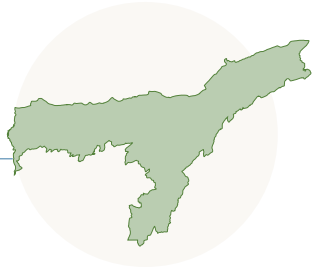
Digital Divides (in percentage points)



Source: ICRIER-Prosus Centre

State At-A-Glance

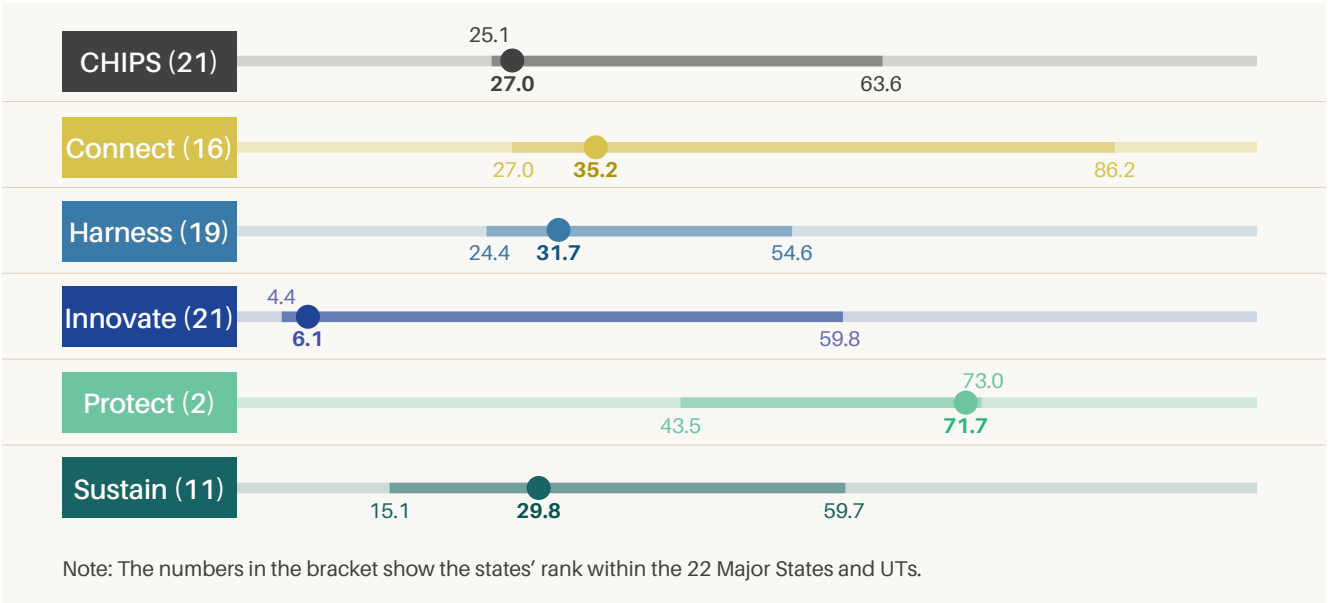
Assam



Affordability and connectivity remain as challenges, shared devices improve access

Overall score and ranking

Assam has the second-lowest CHIPS score. Although it ranks second-highest on Protect, it records the second-lowest score on Innovate, and performs relatively poorly on both Connect and Harness.



Note: The numbers in the bracket show the states' rank within the 22 Major States and UTs.

Digital Pyramid

Assam's Digital Pyramid is notably narrow for the two core indicators of individual access — smartphone and internet penetration. It also has the lowest penetration levels in the North East. The cheapest smartphone costs about 1.4 times the state's average monthly per-capita income, making access to devices and data a challenge. This also contributes to relatively large urban–rural gaps in access.

However, shared-device usage has significantly expanded digital reach. Assam has one of the highest ratios of internet users to smartphone users (1.42). This pattern also explains the state's low gender gap in internet use (4 ppt) despite a high gender gap in smartphone ownership (20 ppt).

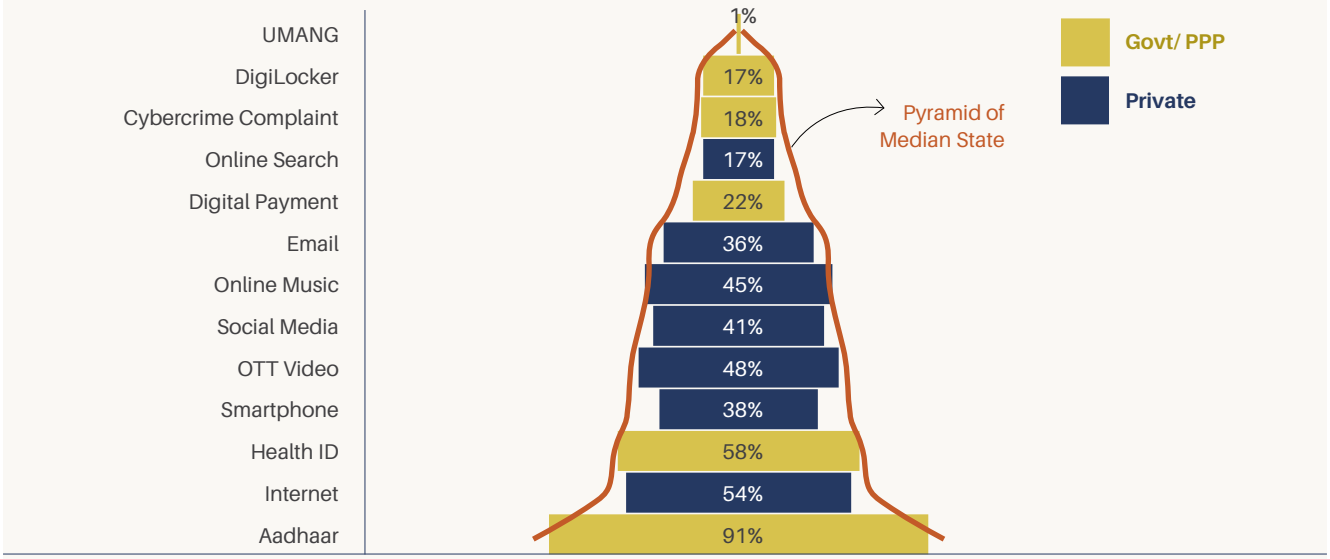
Assam also has the lowest share of households with optical fibre connections, slow internet speeds, and frequent network downtime.[35] Yet individuals actively use the internet for everyday purposes such as online music and OTT platforms, placing the state 9th in the Apps and Platforms sub-pillar. It also records the highest share of rural households engaged in online shopping.

[35] Barman (2023).

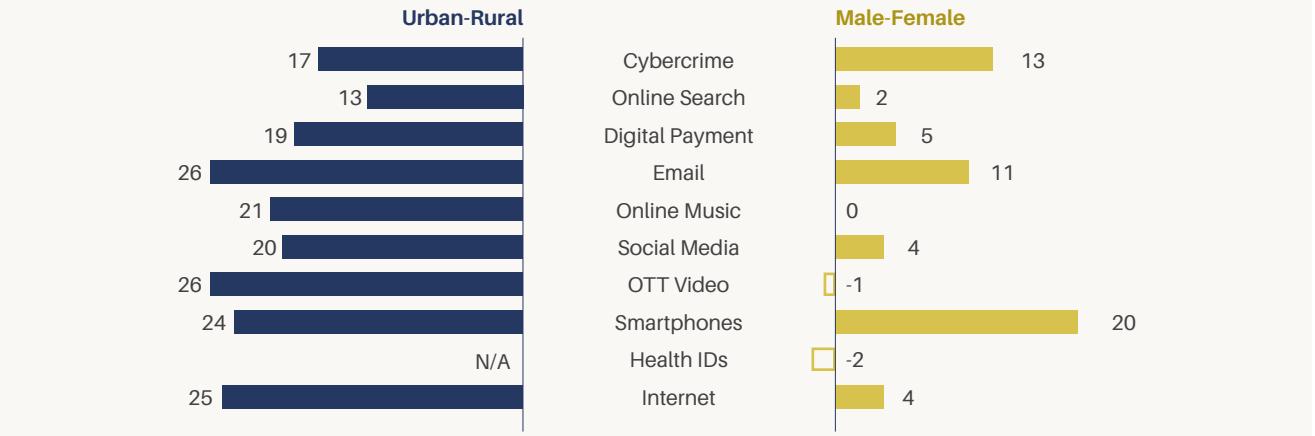
On cyber safety, Assam reports the lowest number of cyber fraud incidents per thousand internet users and the second-lowest amount lost per incident. While this may reflect lower vulnerability, it may also be due to under-reporting: only 18 percent of respondents in the 2025 Comprehensive Modular Survey (CMS) said they were able to file a cybercrime complaint.

While Assam's Connect and Harness scores remain low — consistent with its low attack risk — its high usage of apps and platforms among connected individuals raises concern. As digital access expands and users adopt more commercial applications, the risk of cyber fraud could rise unless stronger preparedness measures are put in place.

Digital Pyramid (users as a percentage of population)



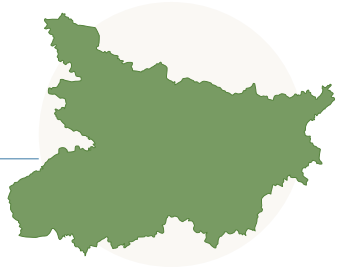
Digital Divides (in percentage points)



Source: ICRIER-Prosus Centre

State At-A-Glance

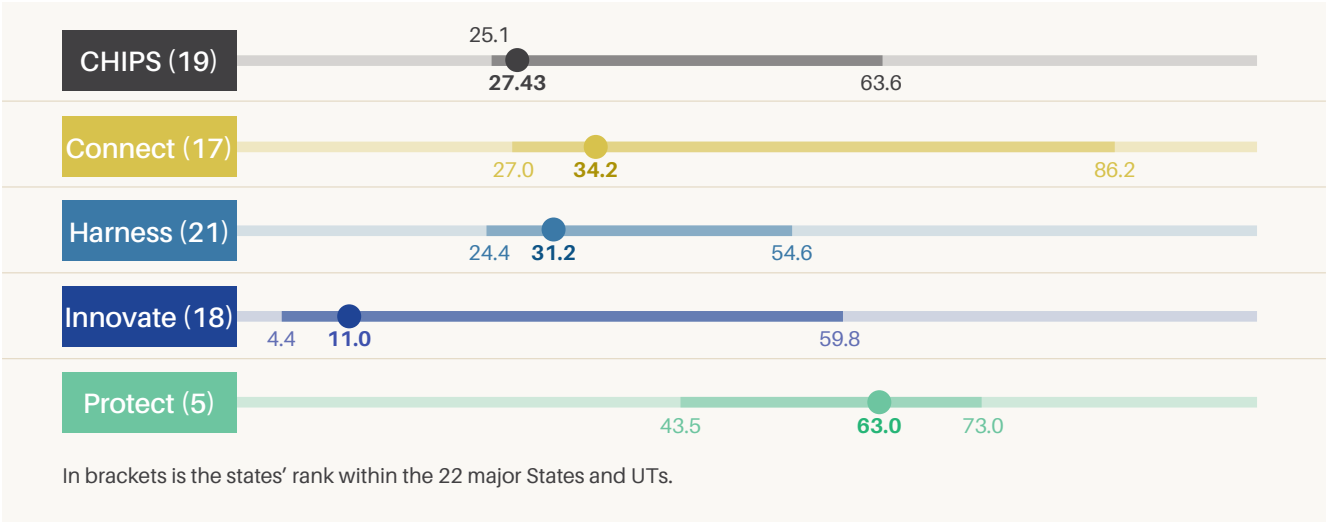
Bihar



Potential for high impact through improved geographical inclusion

Overall score and ranking

Bihar is ranked 19th among the major Indian states, with relatively low rankings for the Connect, Harness and Innovate pillars.



In brackets is the states' rank within the 22 major States and UTs.

Digital Pyramid & Digital Divides

According to data from the Kantar ICUBE survey, it has the lowest percent of population using the internet (43%). The CMS survey, however, provides an estimate of 71% (rank 10), higher than states like Telangana, Madhya Pradesh and Rajasthan. The CHIPS score includes both sources of data, weighted equally. While special efforts to extend connectivity in rural through the BharatNet programe[36] have been successful, resulting in the third highest number of service ready points per Gram Panchayat, an additional push may be needed to close the last mile gaps.

The pyramid of individual use is narrower than the median pyramid for all indicators. This is largely due to low access – those who have access to the internet are very likely to use it for a variety of free applications including OTT (86%) and music (77%). The high high-urban divides in percent of population using various applications are again a reflection of gaps in access, with relatively uniform use urban and rural areas amongst those who have access. On the gender front, gaps in use are both due to gaps in access as well as limited use amongst those who have access, due to low digital literacy[37].

Individuals are also adapting combinations of online applications to suit their needs and contexts. For example, close to 25% rural households in Bihar use online shopping despite relatively low use of digital

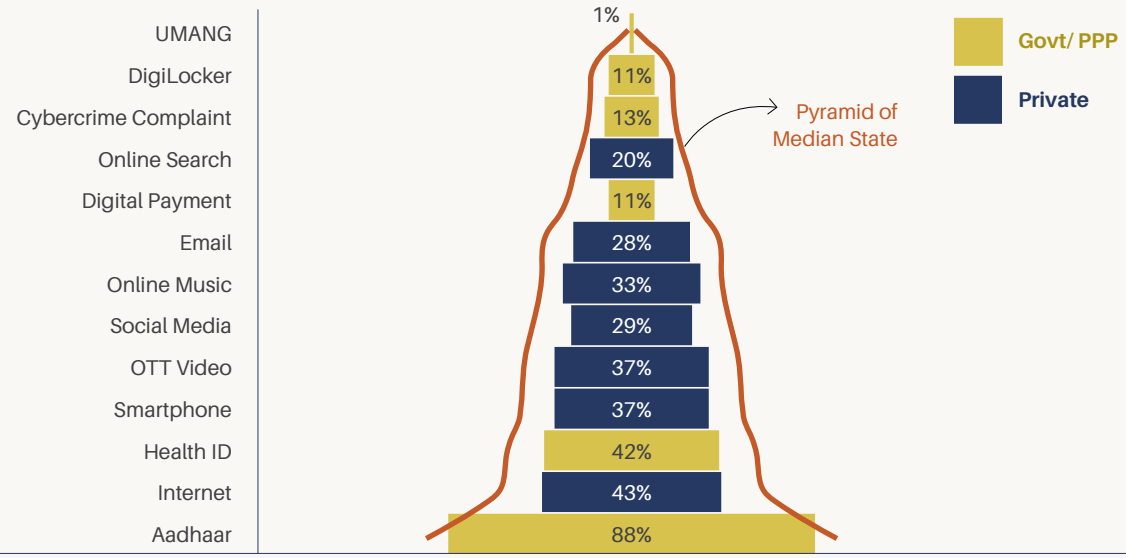
[36] PIB (n.d.).
[37] Alam, Sana (2021).

payments, relying on options like cash on delivery – one example of hybrid digitalisation that is characteristic India's journey.

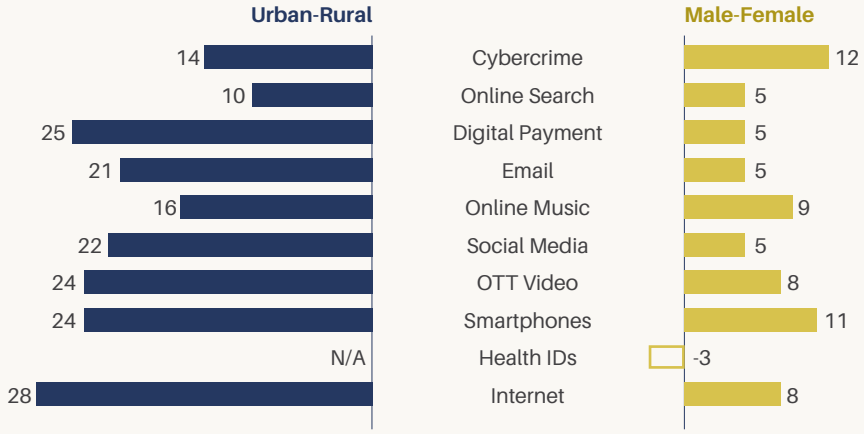
Improving access through public infrastructure also presents opportunity for significant impact. While Bihar is lagging on extending widespread access to DPIs, its use amongst those who are covered is high. For example, it has one of the highest number of AePS transactions per Aadhaar and PMJDY account. Similarly, while the percent of population with Health IDs is relatively low, the number of health records linked per ABHA ID is the 7th highest.

Interestingly, according to TRAI, the Bihar telecom circle (which includes Jharkhand) has the highest 4G mobile download speeds, likely due to a recent expansion in towers which is still underutilised[38]. Bihar has one of the lowest risk of attack (2nd) but is also one of the least prepared (19th).

Digital Pyramid (users as a percentage of population)



Digital Divides (in percentage points)

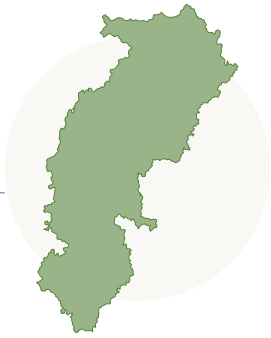


Source: ICRIER-Prosus Centre

[38] Nigam (2024); Tandon (2024)

State At-A-Glance

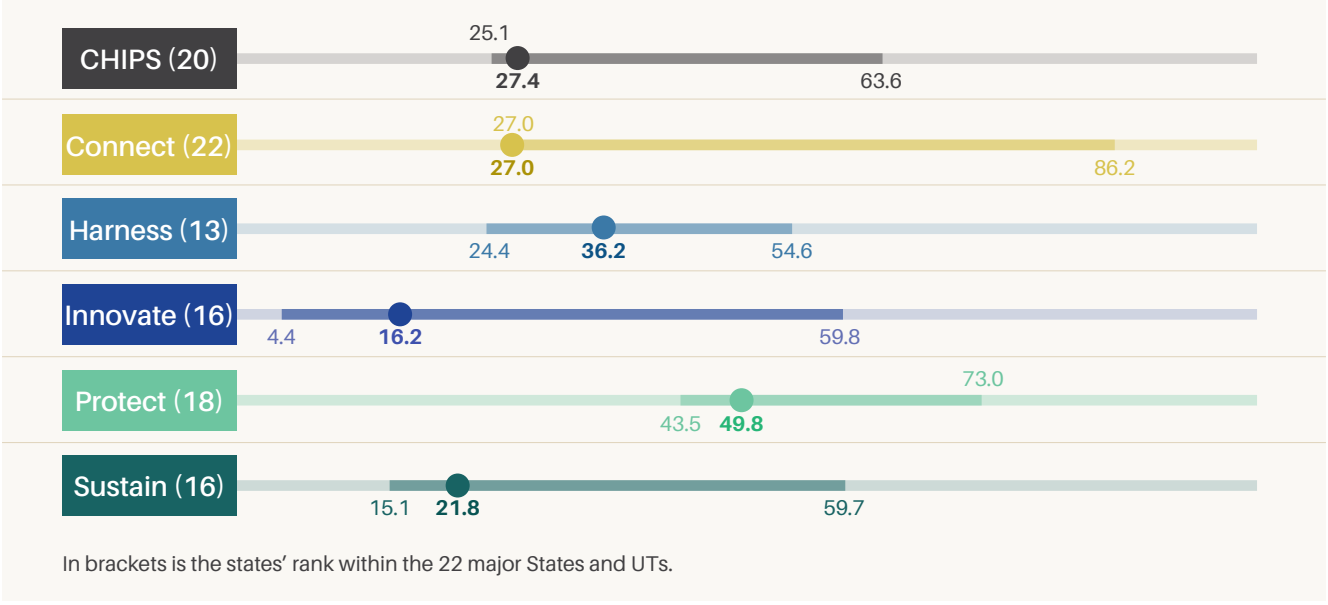
Chhattisgarh



Harnessing the digital economy, but on a small base

Overall score and ranking

Chhattisgarh is amongst the least digitalised state, with the lowest score in Connect.



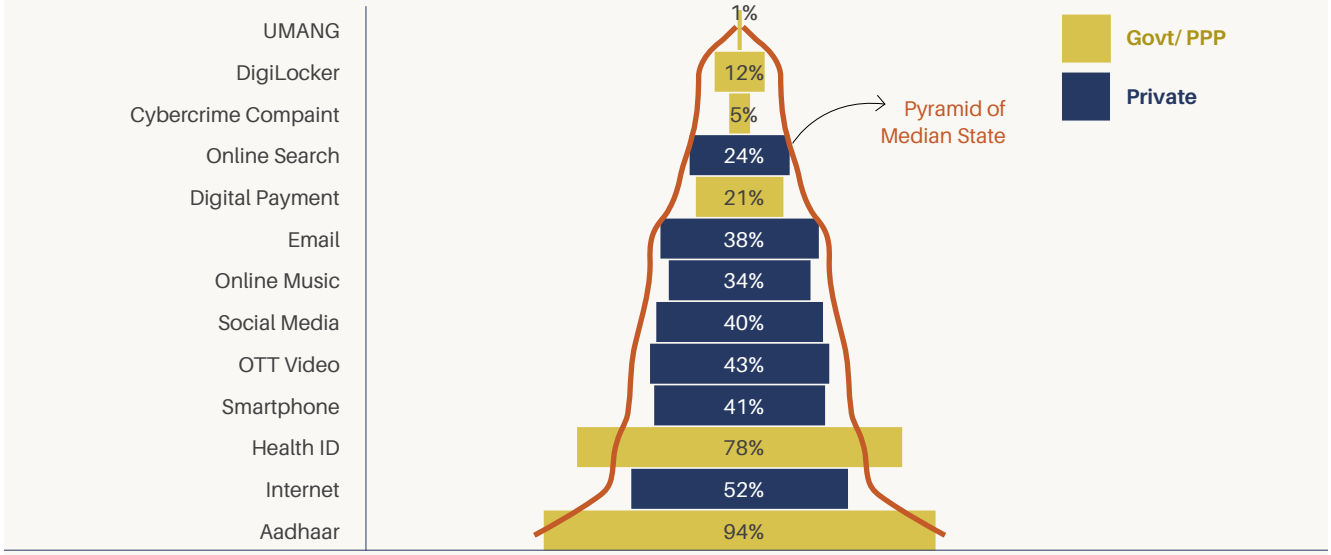
In brackets is the states' rank within the 22 major States and UTs.

Digital Pyramid & Digital Divides

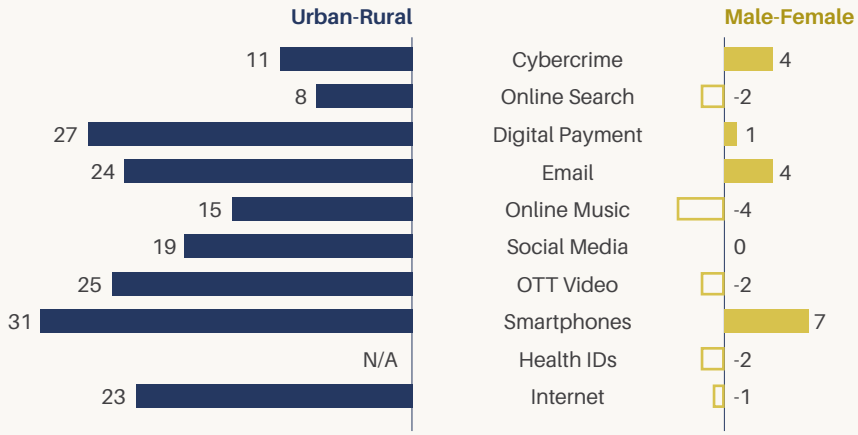
It has internet penetration as per the CMS data (60%) and the fifth lowest as per the Kantar ICUBE data (52%). The former data estimates a high gender gaps in access, while the latter estimates the opposite, warranting further investigation. Initiatives like the Sanchar Kranti Yojana, which provided free smartphones to women has contributed to reducing gender gaps. The state's relatively high ratio of internet penetration to smartphone penetration is consistent with better gender inclusion, particularly with respect the use of free apps and platforms. The use of applications that require financial transactions (online shopping and digital payment) remains low.

Chhattisgarh's strongest pillar is Harness (13th), with scores close to the median for each of its three sub pillars (Apps and Platforms, Public Platforms, and DPIs). It has done particularly well on integration of health related DPIs, with a health ID penetration rate well above average, and amongst the highest linking of health records to ABHA IDs and health facilities onto the Ayushman Bharat Digital Mission registry.

Digital Pyramid (users as a percentage of population)



Digital Divides (in percentage points)



Source: ICRIER-Prosus Centre

Other notable observations

Chattisgarh's Innovate score is pulled up by its score in the Knowledge Production subpillar. It has the 4th highest share of digital recognised startups that have been patented – of the 421 recognised startups,[39] 15 have been patented. While the high share is partly because of the low denominator, it does also indicate its emergence as a more recent hub for innovative startups. The state government has also been undertaking various efforts to make Chhattisgarh Central India's innovation hub.[40] The state recently launched the country's first AI-based data center park in Nava Raipur[41].

Similar to other states with low digitalisation, it ranks high on risk of attack (4th) but is the least prepared.

39 Recognised by the State Startup Policy, within 66 selected digital sectors.
40 The Indian Express. November 27 2025.; Department of Commerce & Industries, Government of Chattisgarh
41 Drolia, 2025

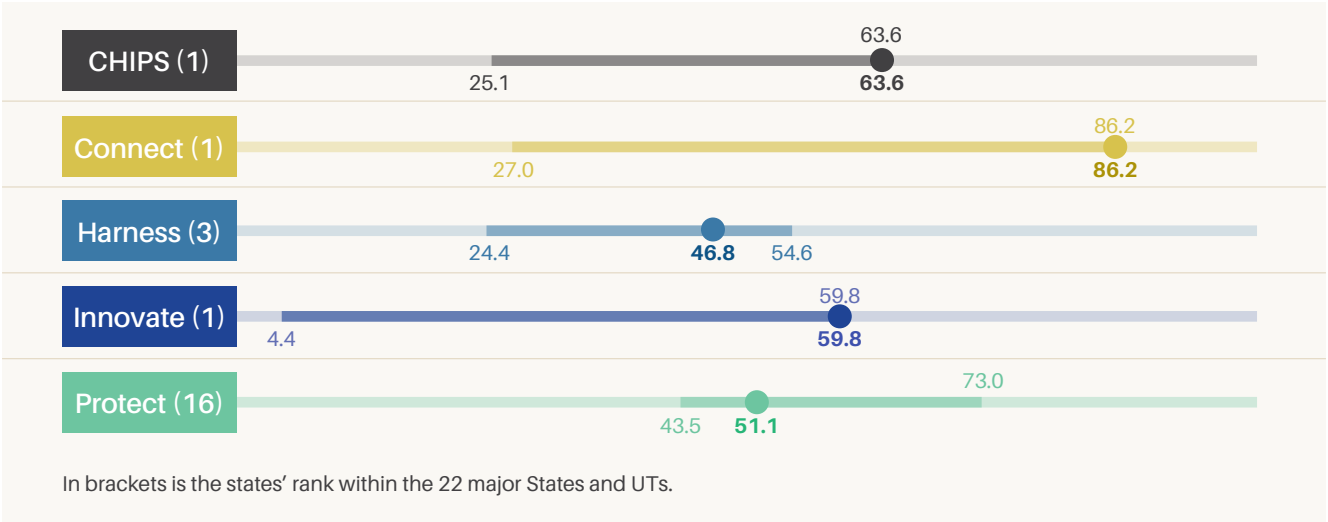
State At-A-Glance

Delhi

The advanced digitaliser

Overall score and ranking

Delhi has the highest CHIPS score, leading two of four pillars (Connect and Innovate). It has the highest value on 20 out of the 67 indicators for which is has data.



In brackets is the states' rank within the 22 major States and UTs.

Digital Pyramid

Delhi's pyramid of individual access and use, is wide with values higher than the median for all indicators except one. Delhi's penetration on health IDs (44%) is the amongst the lowest amongst the 22 major states and UTs.

Digital Divides

Delhi's widespread access to the digital economy is also inclusive, with the highest score on gender inclusion in access. While it does quite well on inclusion in Harness as well, there is scope for improvement for specific aspects such as digital payments, health IDs and ability to report cybercrimes.

Other notable observations

Contrary to the widespread access and use by individuals, the use of digital technologies by MSMEs appears to be relatively low. These values, however, are based on a self-selected survey conducted by Vodafone Idea as part of its ReadyForNext program and therefore may not be representative of the complete ecosystem[42].

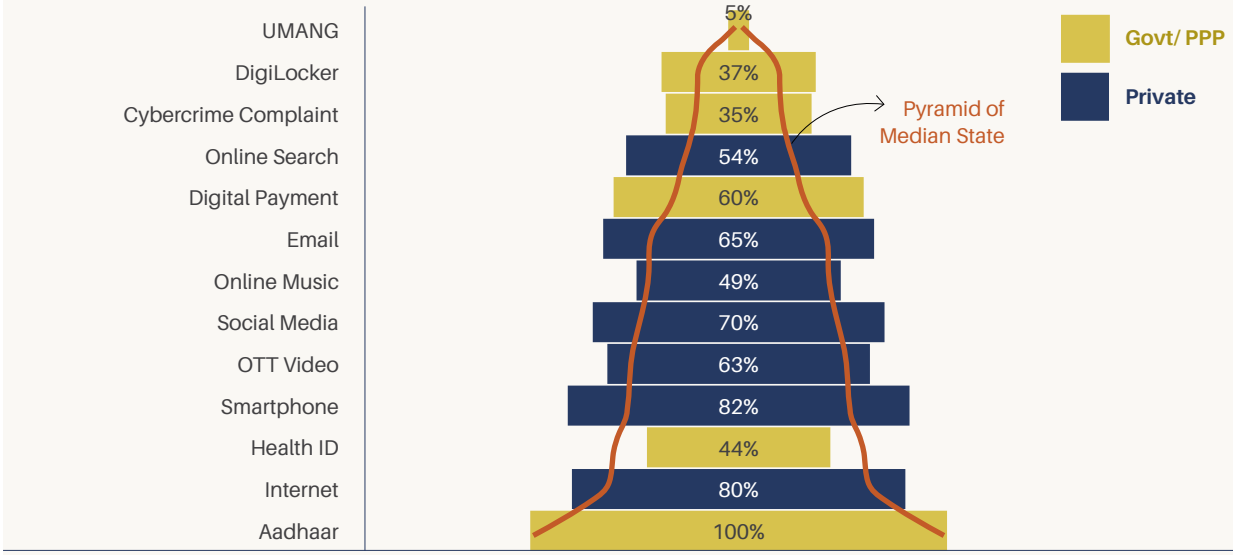
[42] ReadyForNext, n.d.

A more systematic and detailed survey can help understand business adoption.

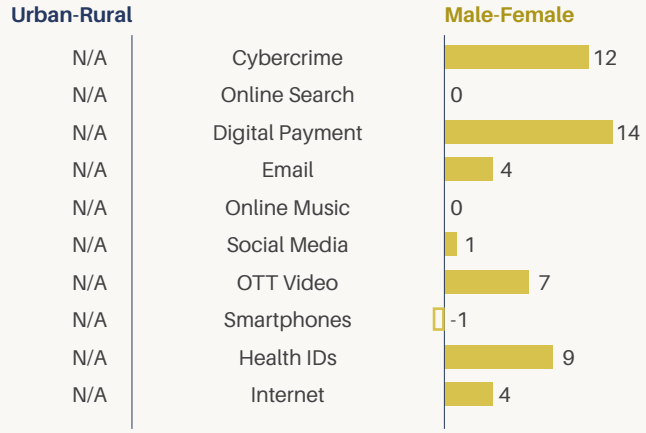
Delhi's strong performance in Innovate is propped by its lead in the Knowledge Production subpillar and 3rd rank in the Investments, Startups & Business Innovation subpillar. It has the second highest number of digital startups[43] after Karnataka, and the highest startups per incubator, with Gurgaon as one of the major hubs of in the country.

The Achilles' heel of this advanced digitaliser is its Protect pillar. While it is the most prepared state, it is also the second most vulnerable to risk of attacks. While its high number of cyberfraud incidents (11.6 per thousand internet users) is partly due to higher reporting, it appears that Delhi requires greater preparation given its level of digitalisation and disproportionate risk of attack.

Digital Pyramid (users as a percentage of population)



Digital Divides (in percentage points)

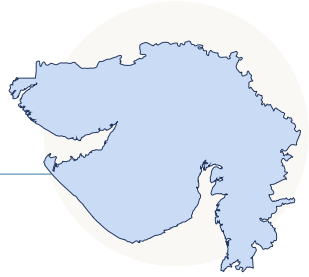


Source: ICRIER-Prosus Centre

[43] Recognised by the State Startup Policy, within 66 selected digital sectors.

State At-A-Glance

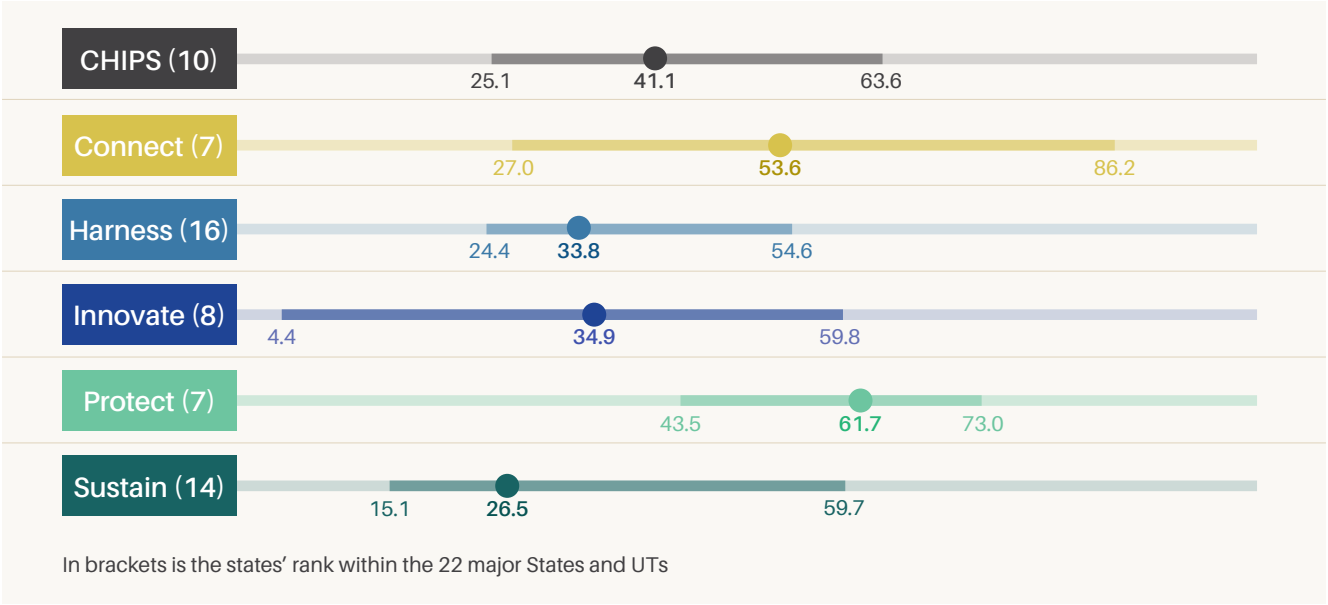
Gujarat



Well-Connected and Protected, with the potential to better Harness

Overall score and ranking

Gujarat's ranks 10th in overall digitalisation, with high ranks in Connect (7th), Innovate (8th) and Protect (7th). It is the only state in the Assured digitalisers category with Harness as its weakest pillar, highlighting an opportunity to leverage its relatively connected population to promote progress. Its relatively low harness score may also partly explain its lower risk of attacks.



In brackets is the states' rank within the 22 major States and UTs

Digital Pyramid

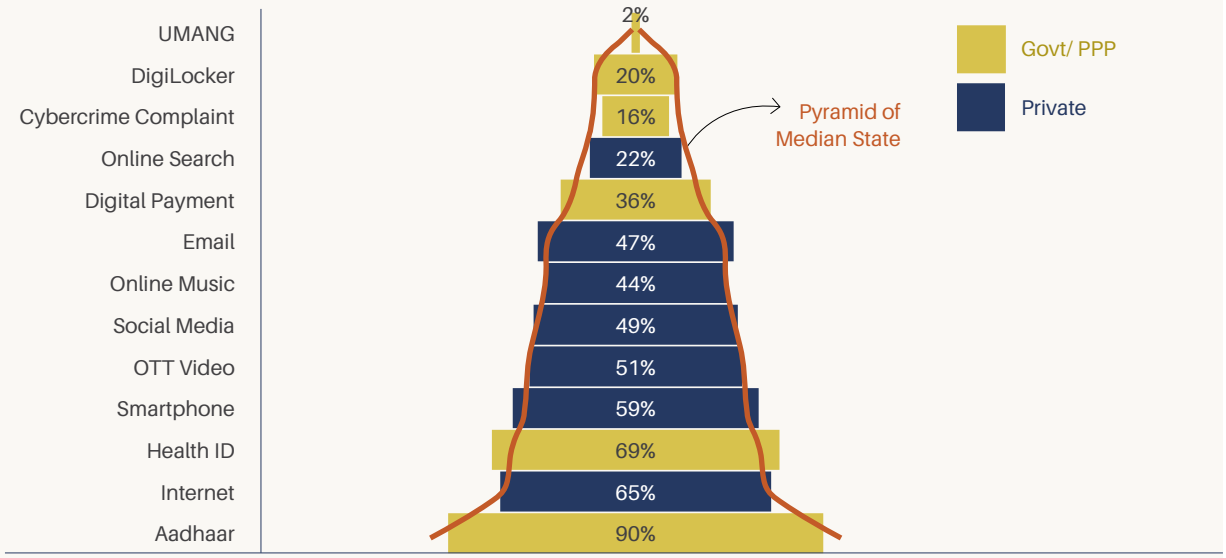
Even though Gujarat's Apps & Platforms and DPI scores (which measure use amongst those who have access) is below the median, its pyramid of the population's access and use closely mirrors the median pyramid due to a higher base of connected individuals.

Digital Divides

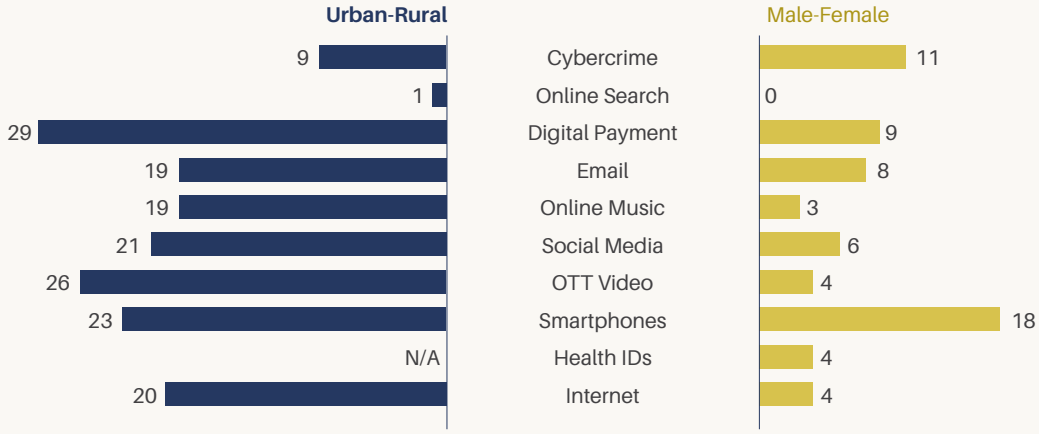
There is, however, significant scope to improve its gender inclusion (2nd lowest score). Women appear to be gaining access through shared devices (the gender gap in internet use is much lower than the gender gap in smartphone use).

While urban-rural gaps in Connect are lower than most other states, there is significant scope to reduce them in Harness. For example, while 68% of urban internet users make digital payments, only 41% of rural internet users do. (52% and 23% of population, respectively).

Digital Pyramid (users as a percentage of population)



Digital Divides (in percentage points)



Source: ICRIER-Prosus Centre

Other notable observations

The state's Innovate score is boosted by the highest % of MSMEs using IOT in business operations, and a higher share of patented startups in the recognised digital startups[44].

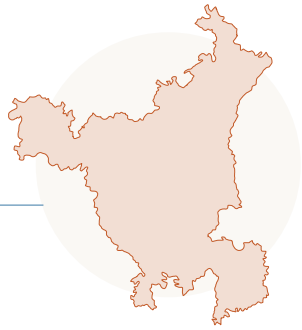
Gujarat's performance is relatively low on the sustainability front given its level of digitalisation. More recent data centers are powered by solar and wind energy, and emphasize energy efficiency[45]. The state is also piloting AI-enabled energy forecasting in electricity distribution and in large-scale manufacturing facilities[46].

44 Recognised by the State Startup Policy, within 66 selected digital sectors.
45 Sheth (2024) ; Mordor (2025)
46 Times of India (2025) ; Mordor (2025)

State At-A-Glance

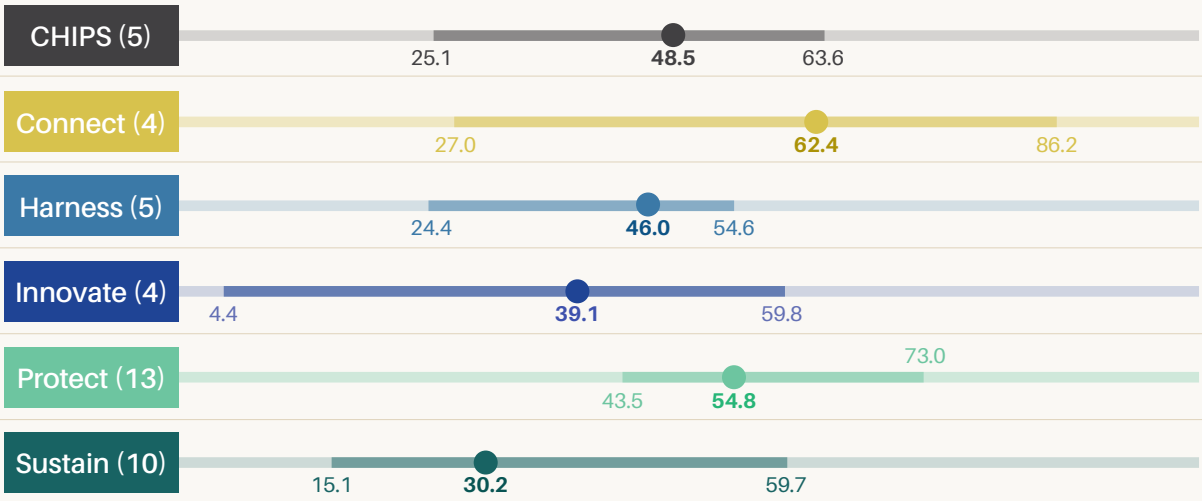
Haryana

A balanced and inclusive advanced digitaliser



Overall score and ranking

Haryana is the 5th most digitalised state, with high ranks on Connect (4th), Innovate (4th) and Harness (5th). It is one of the most balanced digitalisers across pillar and subpillar level (low coefficient of variation).



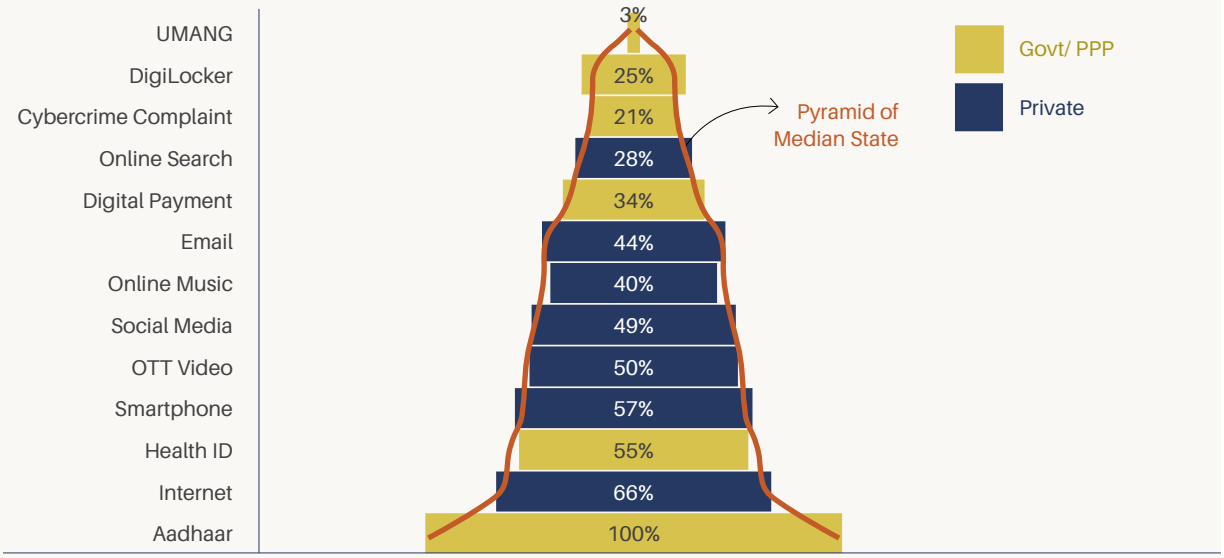
In brackets is the states' rank within the 22 major States and UTs.

Digital Pyramid & Digital Divides

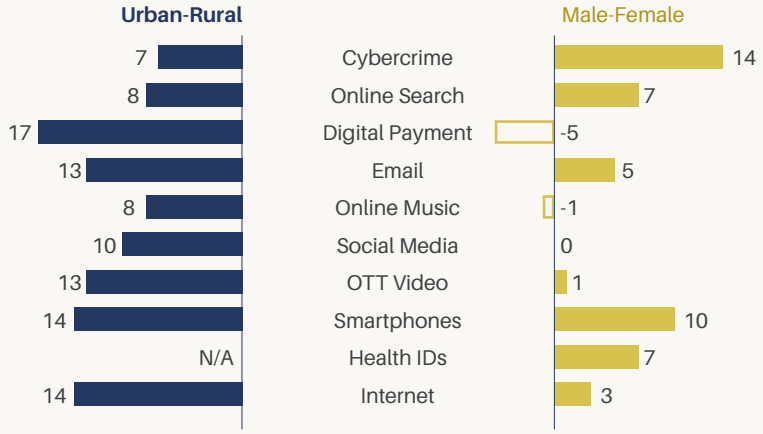
Its pyramid of individual access and use mirrors the median pillar, while its divides are smaller than the median. Its strongest pillar within connect are affordability (2nd), government access (2nd) and geographical inclusion (3rd). It is also amongst the highest on inclusion within harness – both gender and geographical.

Haryana is the leading state in the Public Platforms subpillar under Harness, propped by its use of platform marketplaces in the agricultural sector. It has the highest percent of farmers registered on e-nam, and a relatively high share of mandis registered on e-nam. While it is also amongst the top in the Apps and Platforms (5th), and MSME (6th) subpillars within Harness, its weakest subpillar is DPIs (14th). While Haryana has managed to achieve widespread coverage on foundational DPIs, its usage remains limited. The state also has only moderate coverage and usage of sectoral DPIs.

Digital Pyramid (users as a percentage of population)



Digital Divides (in percentage points)



Source: ICRIER-Prosus Centre

Other notable observations

The states high performance on Innovate comes from its vibrant Investments, Startups and Business ecosystem (2nd rank). It has the highest investment in tech startups as a share of NSDP (2.3%), much higher than all other states and close to double of the next highest, Karnataka.

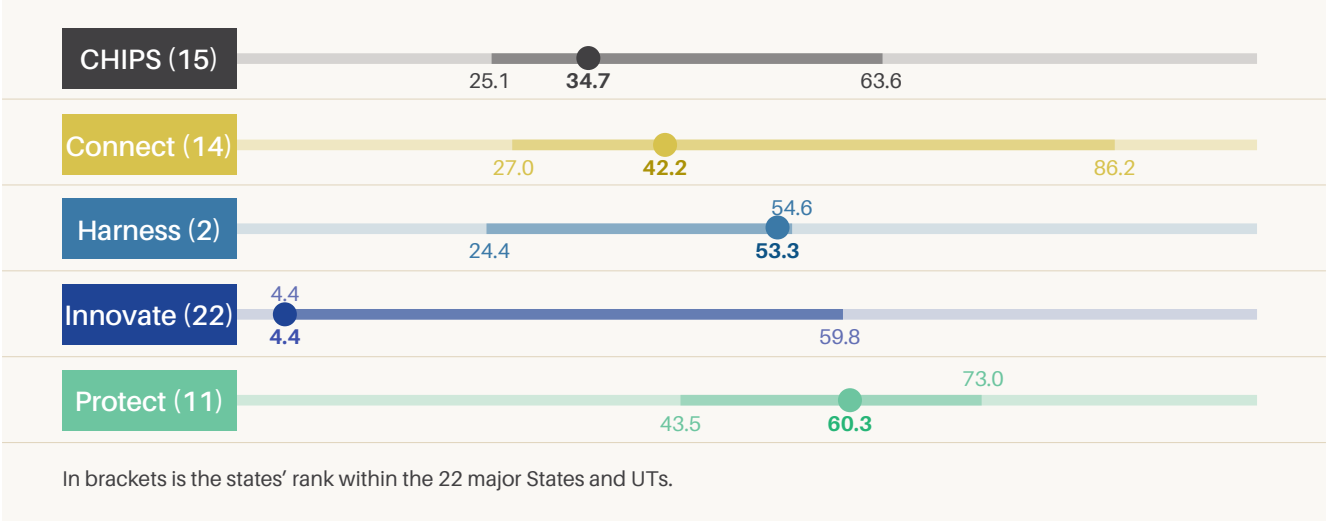
State At-A-Glance

Himachal Pradesh

Sound at leveraging digital technologies

Overall score and ranking

Himachal Pradesh ranks 15th in the CHIPS score, and it a leader in Harness (2nd).



In brackets is the states' rank within the 22 major States and UTs.

Digital Pyramid

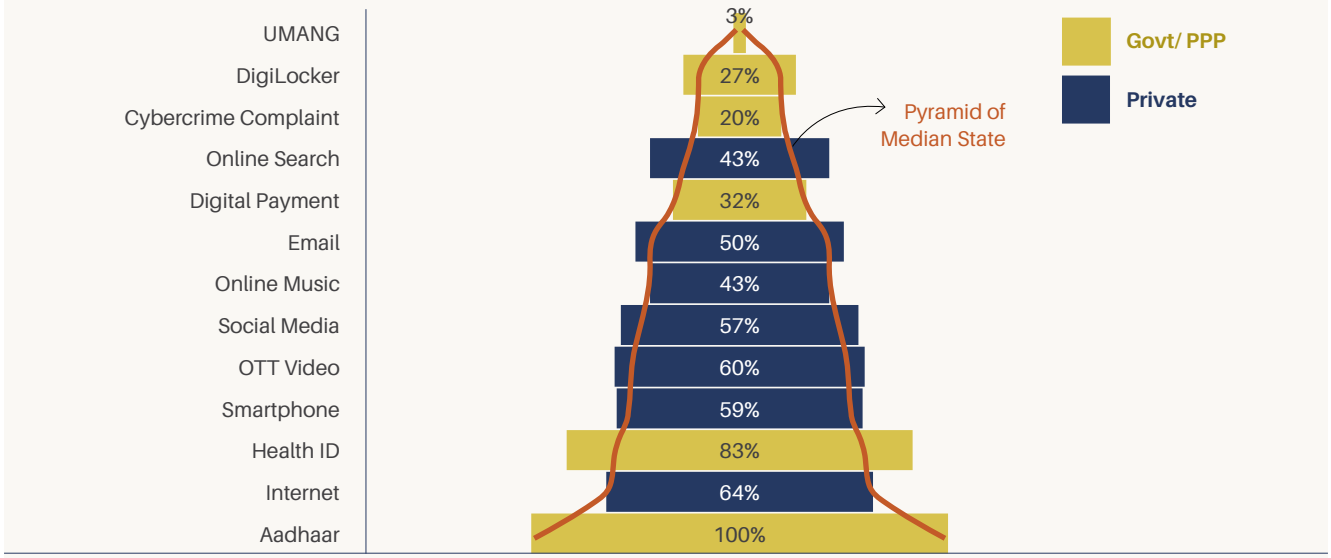
While its internet penetration is at the median value, the percent of population using various applications – both public and private – is consistently above the median. It is the leader in the DPI subpillar, and 2nd in Apps and Platforms with the highest percent of internet users using social media and OTT videos. Given its scores in harness, the digital pyramid would have been wider if a greater share of population was connected. On the DPI front, Himachal has achieved widespread coverage for both foundational and sectoral DPIs, but still has scope to leverage this by increasing their utilisation. For example, 83% of the population has health IDs, however the linking of records and onboarding of health facilities is still in progress with efforts to integrated it with state initiatives such as the Mukhya Mantri Himachal Health Care Scheme (HIMCARE)[47]. Similarly, % of internet users able to perform UPI transactions and share of last mile banks offering UPI is high, while number of UPI transactions per internet user is relatively low.

Digital Divides

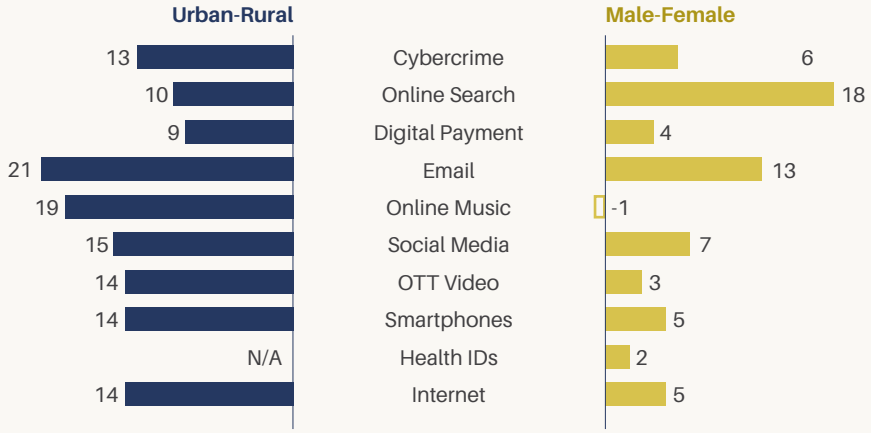
Himachal Pradesh has relatively low gender divides but high urban-rural divides in access. Amongst connected individuals, however, both gender and urban-rural divides in usage is relatively low particularly for applications such as digital payments, social media and OTT videos.

47 https://hpsbys.in/

Digital Pyramid (users as a percentage of population)



Digital Divides (in percentage points)



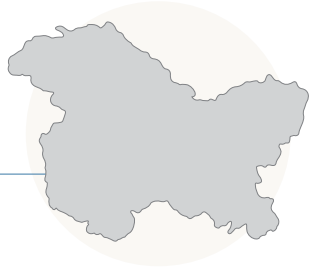
Source: ICRIER-Prosus Centre

Other notable observations

Himachal's weakest pillar is Innovate, with low scores across all indicators.

State At-A-Glance

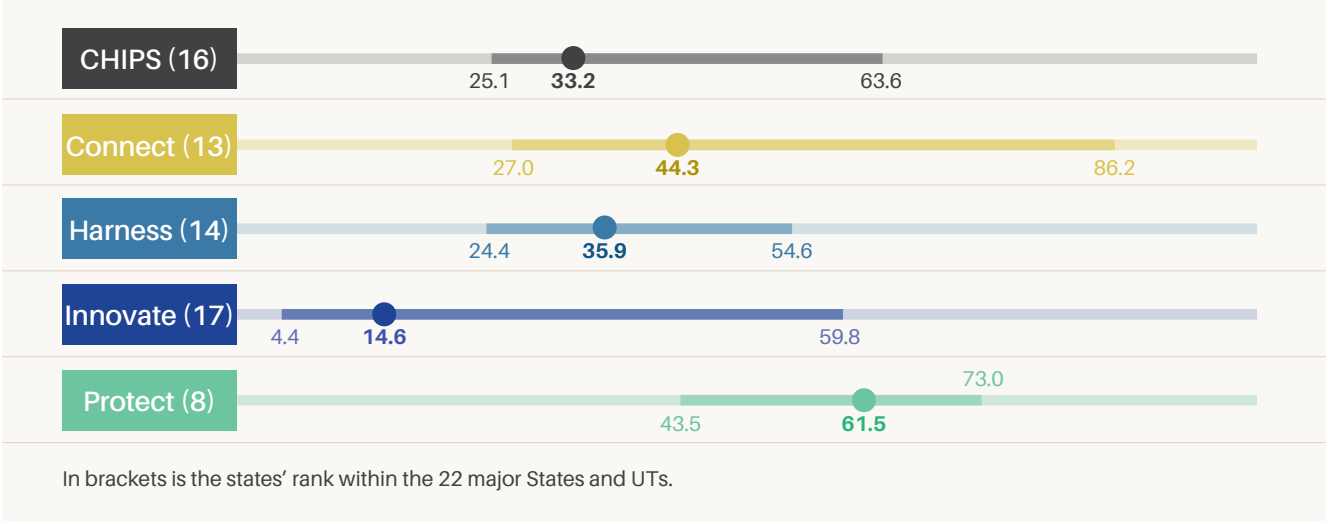
Jammu & Kashmir



Ascending with improved access and use

Overall score and ranking

While Jammu & Kashmir ranks 16th in the CHIPS score, it is 13th in Connect and 14th in Harness.



In brackets is the states' rank within the 22 major States and UTs.

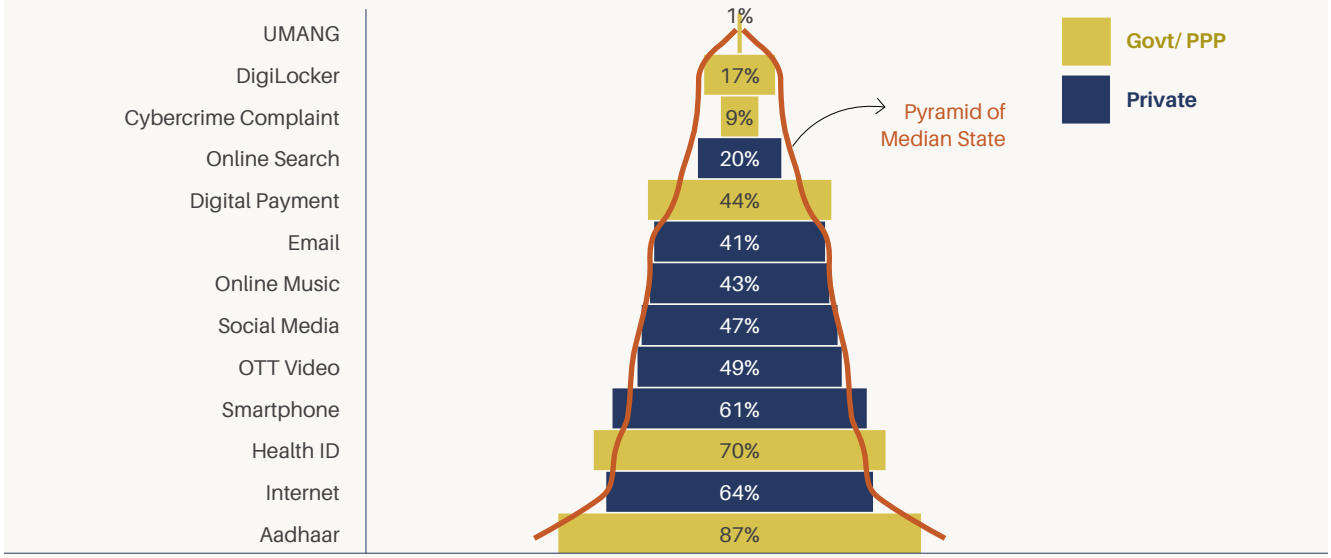
Digital Pyramid

Jammu & Kashmir is an ascending digitaliser, with the 4th highest increase in smartphone penetration (12 ppt) and 5th highest increase in internet penetration (9 ppt) between 2022 and 2024. Its digital pyramid mirrors the median for most private applications. A closer look at the subpillar reveals the state's public driven path towards leveraging the digital economy. Its strongest subpillar in Harness, is DPIs (4th), reflected in the digital pyramid by the above median penetration for digital payments and health IDs – while it the second lowest in the Apps and Platforms subpillar.

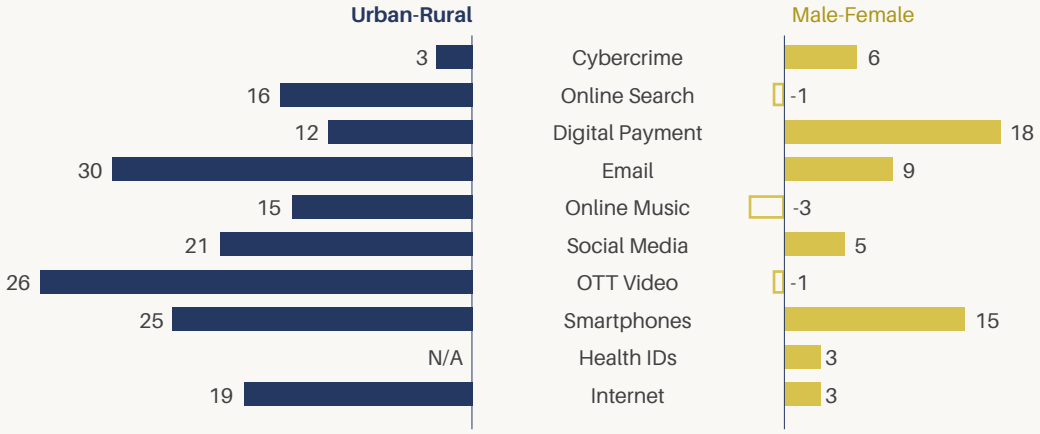
Digital Divides

Jammu & Kashmir's digitalisation has also been relatively inclusive, particularly on the gender front. Women who are connected are also using digital technologies relatively similarly to men, except for digital payments. While access urban-rural gaps in access are large, it is partly bridged by shared devices and is still relatively small compared to other states. However, urban-rural gaps in individuals use of applications is one of the highest. Its high ranking is driven by a relatively low risk of attack and moderate preparedness. While the refunds on reported amounts have been relatively high, the low gender and geographical gaps in ability to report cybercrimes need to be interpreted in light of the overall percent of population able to report cybercrimes being the second lowest (after Chattisgarh).

Digital Pyramid (users as a percentage of population)



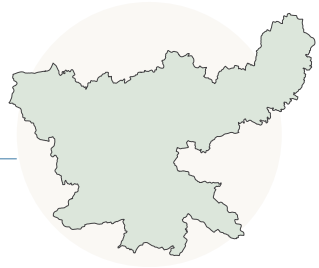
Digital Divides (in percentage points)



Source: ICRIER-Prosus Centre

State At-A-Glance

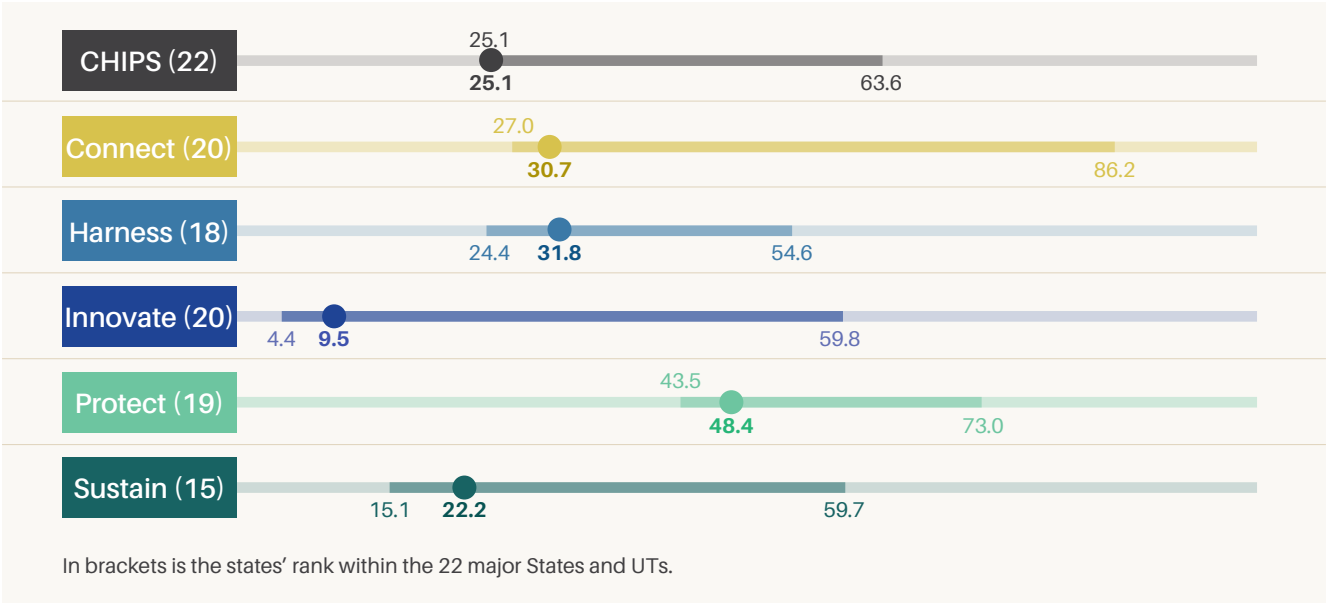
Jharkhand



The least digitalised state gaining momentum

Overall score and ranking

Jharkhand is the least digitalized state among the major Indian states, ranking 22nd, ranking in the bottom quartile for four out of five pillars.



In brackets is the states' rank within the 22 major States and UTs.

Digital Pyramid

Its pyramid of individual access and use is narrower than the median reflecting its lower level of digitalisation. It has had a history of limited internet connectivity due to difficult terrain, conflict and largely rural, low-income population. However, increasing incomes, alongside initiatives such as JAP-IT's e-governance expansion, the Digital Panchayat Mission[48], civil society organisation initiatives and greater focus from telecom providers, have begun showing progress – Jharkhand had the third highest increase in smartphone penetration (12 ppt) between 2022 and 2024, and the 6th highest increase in internet penetration (8 ppt).

Digital Divides

The large urban-rural divides in both access and use appear to be one of the reasons for its slow progress. Jharkhand is amongst the lowest for most connect and harness indicators for rural populations, except for percent of households that made online purchases. This is validated by field visits[49] and reports of the harder-to-reach regions emerging as the new e-commerce hotspots, with new platforms targeting price sensitive

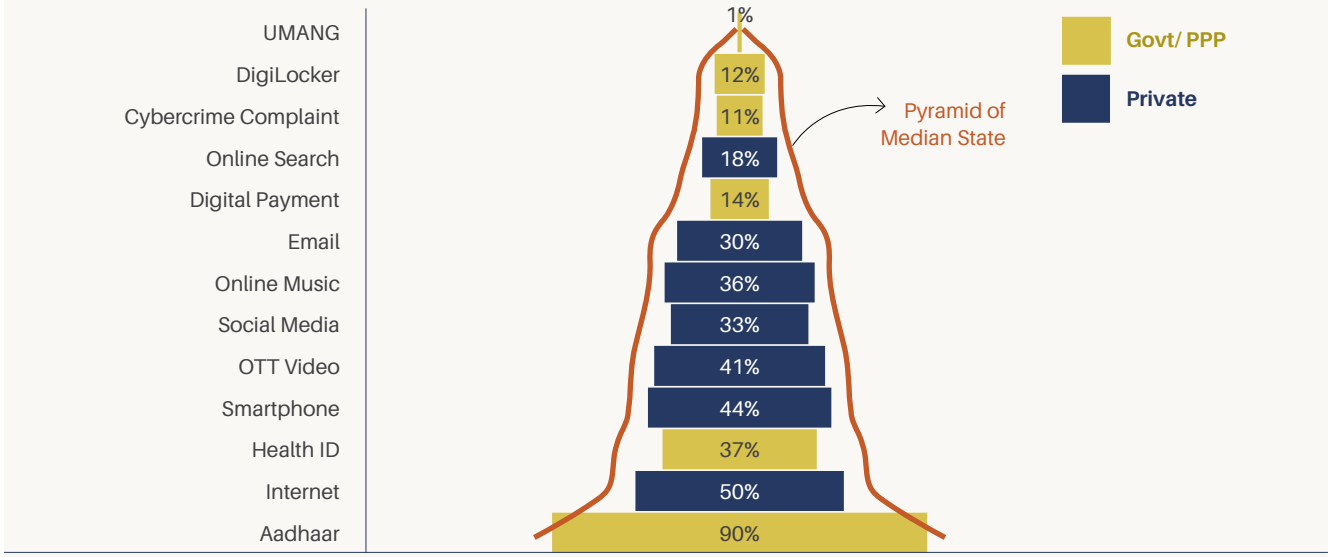
[48] Verma (2023); Pioneer (2025).
[49] A survey conducted by ICRIER of rural areas in four states including Jharkhand.

customers in small towns and rural areas, gaining traction amongst many first-time Internet shoppers and small-scale sellers[50].

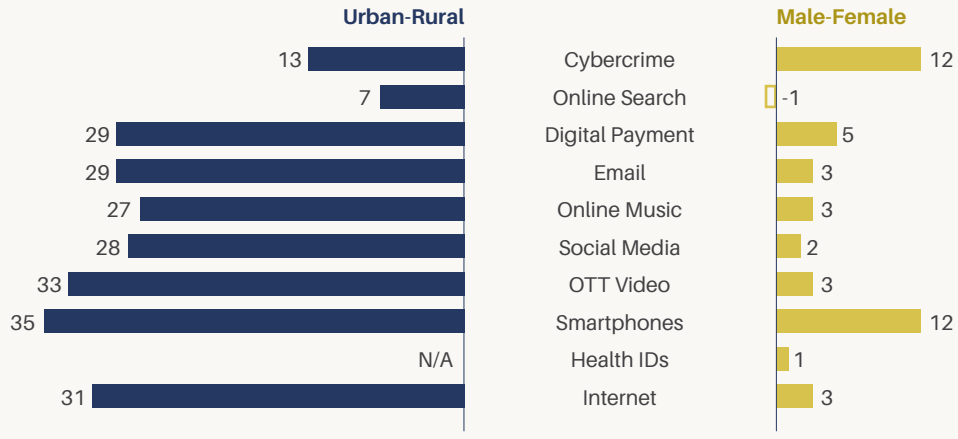
Gender divides, however, are relatively low on both the connect and harness fronts. Shared devices appear to be bridging the gap in smartphone use (12 ppt, while gap in internet use is only 3 ppt). As an aspirational digitaliser at a relatively nascent stage, Jharkhand has the opportunity to pave a more inclusive and sustainable path.

Its extremely low score in Protect highlights the need to rapidly improves its preparedness as it gains momentum, and to ensure it can reap the benefits of digitalisation more so than its risks.

Digital Pyramid (users as a percentage of population)



Digital Divides (in percentage points)

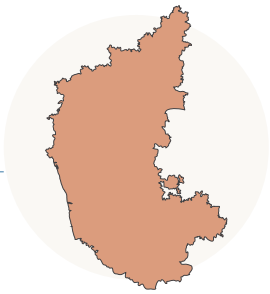


Source: ICRIER-Prosus Centre

[50] HT News Desk, 2024; Kearney, 2024

State At-A-Glance

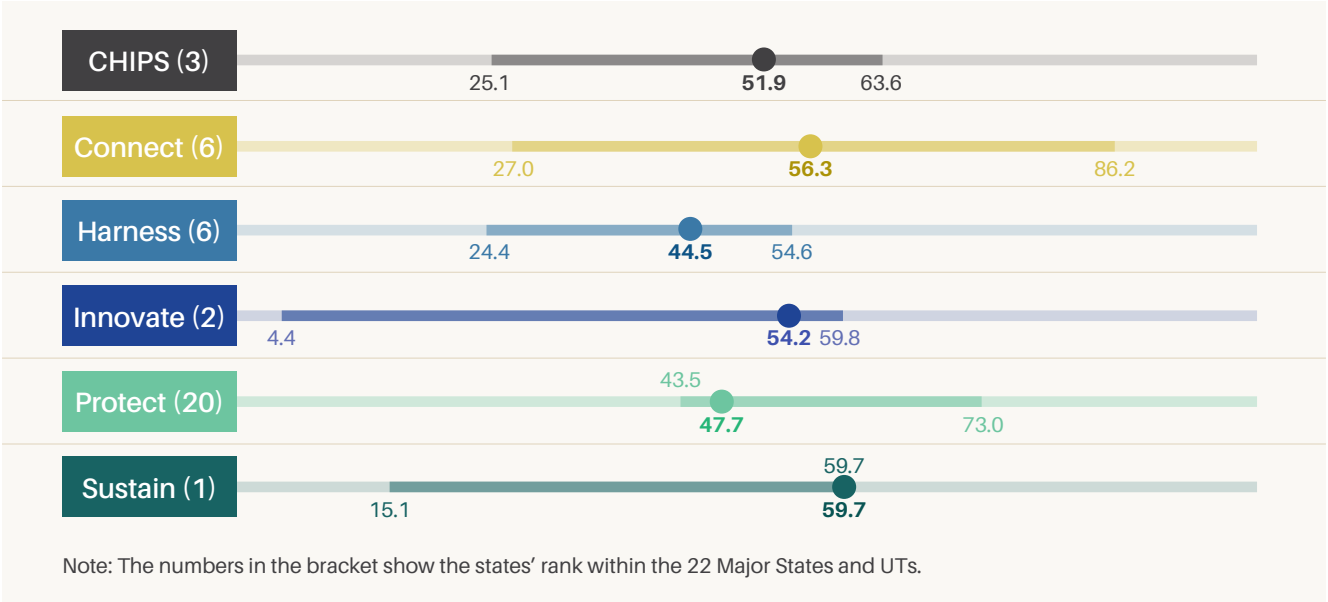
Karnataka



Supporting green technologies and Innovation ecosystems

Overall score and ranking

Karnataka ranks 3rd in the CHIPS score. It is the most balanced digitaliser, with the lowest coefficient of variation across pillar scores as well as subpillar scores. Its strongest pillar is Sustain (1st), followed by Innovate (2nd), Connect (6th), and Harness (6th).



Note: The numbers in the bracket show the states' rank within the 22 Major States and UTs.

Digital Pyramid

Karnataka's pyramid largely mirrors the median for most indicators except two indicators of DPIs (digilocker and digital payments) where is exceeds the median. The state ranks 6th in the DPI subpillar. There is however, significant scope for Karnataka to better use this widespread coverage of DPIs, and to also better establish and leverage sectoral DPI based applications.

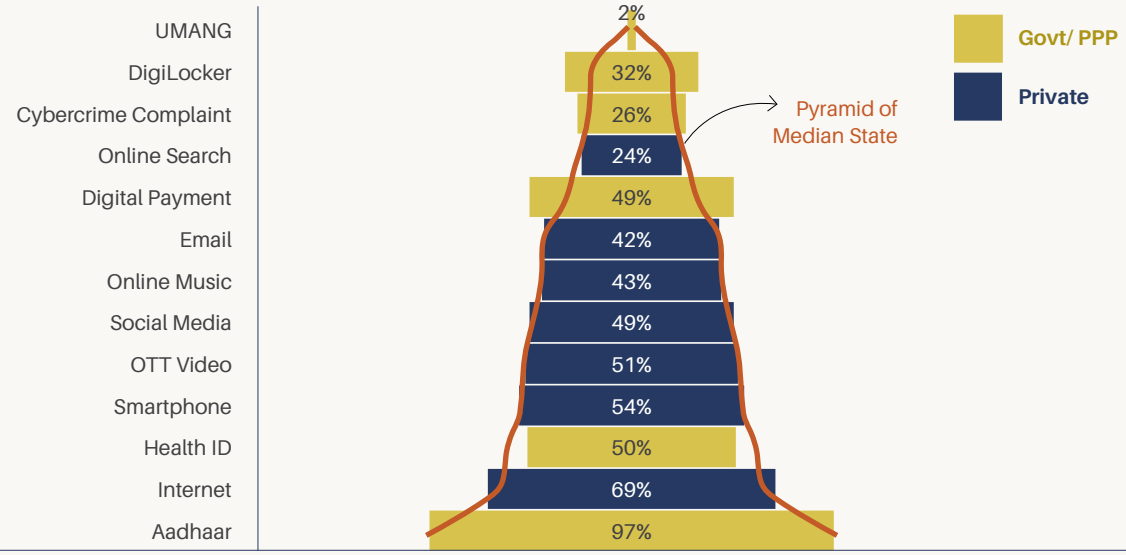
Karnataka's performance in the Apps and Platforms subpillar (3rd) is even higher despite the pyramid showing adoption levels close to the median. This is due to its strong performance on inclusion within this subpillar.

Digital Divides

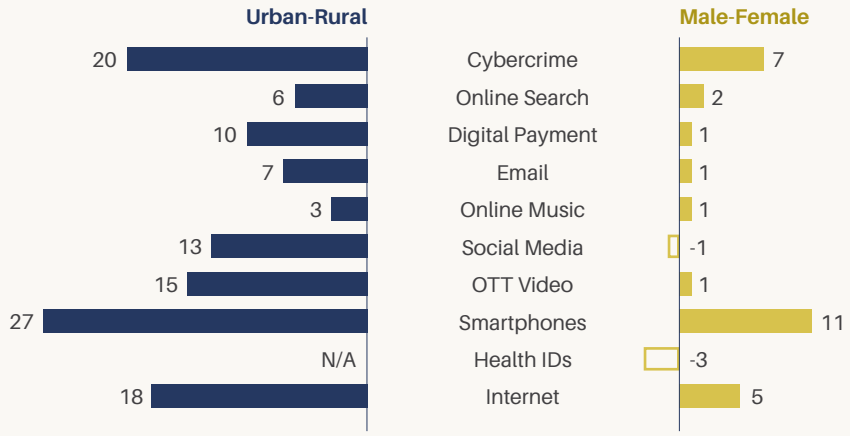
While Karnataka's gender and urban-rural divides in connect (i.e., smartphone and internet use) are not too different from the median levels, both its gender and urban-rural divides by far are the lowest in Harness.

The large urban-rural gap in ability to report cybercrimes, however, stands out as a cause for concern given increasing cybercrimes in rural areas and a low overall protect score. While better reporting is likely to partly explain the Karnataka's higher risk of attack, it is true that the state receives a disproportionately higher attacks, accounting for over 25% of the country's cybercrimes[51].

Digital Pyramid (users as a percentage of population)



Digital Divides (in percentage points)



Source: ICRIER-Prosus Centre

Other notable observations

Karnataka ranks 2nd in Innovate, in line with its reputation as a startup hub at the frontier of digital progress. Interestingly, it does not have the highest score in any of the Innovate indicators, but rather consistently high scores on most of the indicators

[51] Correspondent, 2025

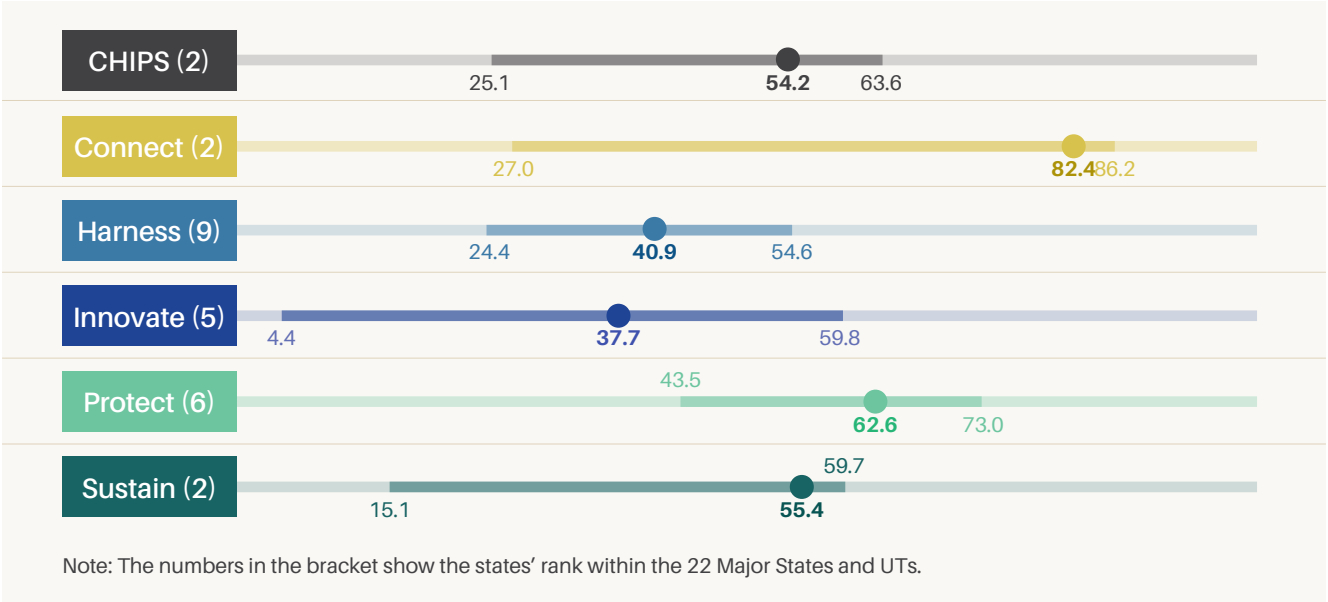
State At-A-Glance

Kerala

Opportunity to further leverage a strong base of connected individuals and institutions

Overall score and ranking

Kerala is the 2nd most digitalised state, leading with Connect (2nd) and Sustain (2nd), followed by Innovate (5th) and Protect (6th). It is the only state in the Advanced with Harness as its weakest pillar.



Note: The numbers in the bracket show the states' rank within the 22 Major States and UTs.

Digital Pyramid

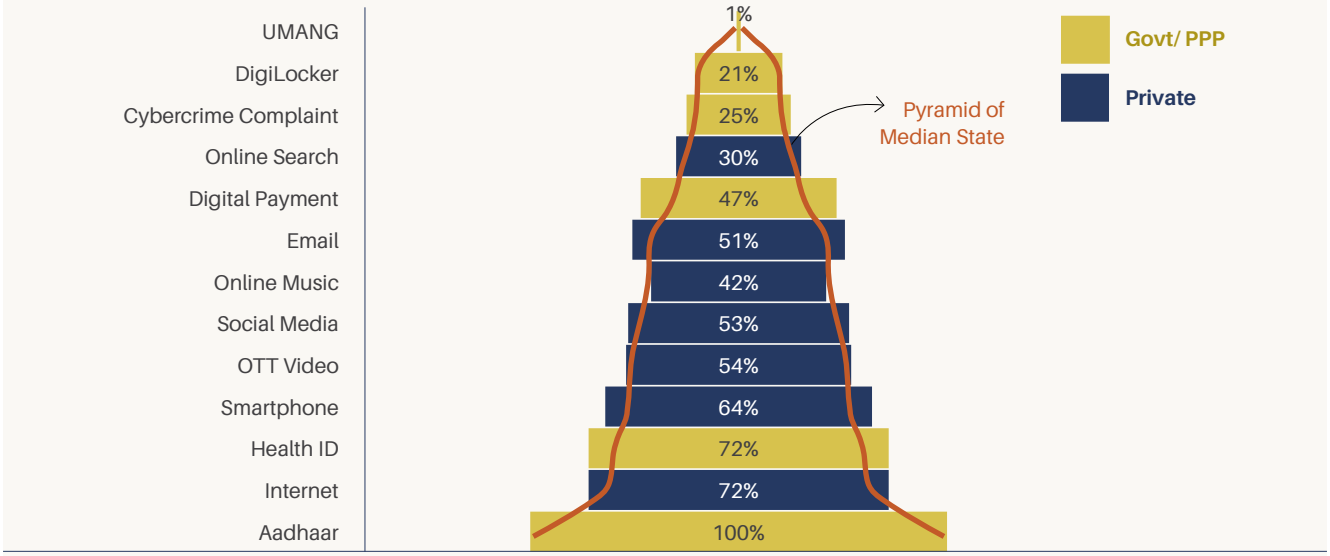
Kerala has one of the highest rates of literacy as well as digital literacy in the country[52]. Initiatives like K-FON to extend state wide optical fibre network have improved last-mile connectivity and quality[53]. Kerala's relatively wide digital pyramid seems to reflects its performance in connect moreso than harness. It ranks 10th in two subpillars (Apps and Platforms, and DPIs) and 19th in Public Platforms. Amongst individuals who are connected, the use of both private and public applications is relatively low with the exception of digital payments. Similarly on the public front, Kerala has established strong connectivity in institutions (highest percent of primary healthcare centers with working broadband connections and number of service-ready points per Gram Panchayat, and 2nd highest percent of schools with functional computer facilities). Its relatively low scores in DPIs and Public Platforms may partly be due to the state's various own initiatives which may not have been integrated with centrally led DPIs that are captured in the CHIPs index[54].

52 Praveen, 2025; Kumar, 2024
53 https://kfon.in/faq
54 The Hindu Bureau, 2025

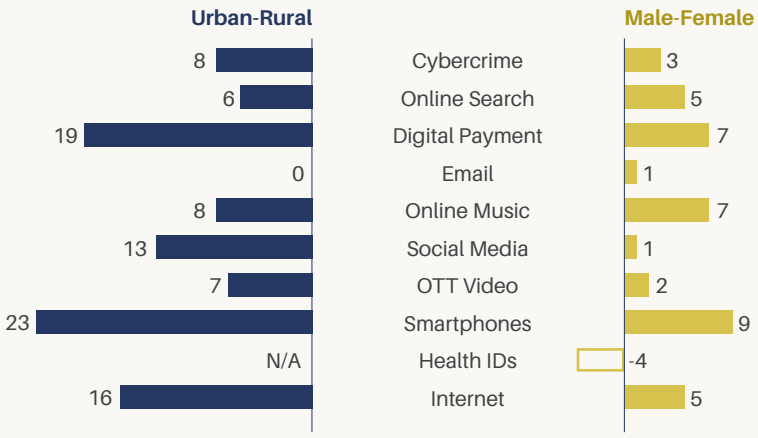
Digital Divides

Kerala has one of the lowest relative divides in access on both the gender and geographical fronts. While a gap of 16 percentage points between urban (78%) and rural (62%) penetration appears high, it is on a high base of overall penetration. Urban residents are only 1.2 times more likely to access the internet than rural residents. Further, given the high urban-rural divides across the country with a median of 22 ppt, a gap of 16 ppt is relatively low. Kerala does, however, lag in its inclusion of rural residents within the Harness pillar, with relatively low use of digital applications compared to their urban counterparts.

Digital Pyramid (users as a percentage of population)



Digital Divides (in percentage points)



Source: ICRIER-Prosus Centre

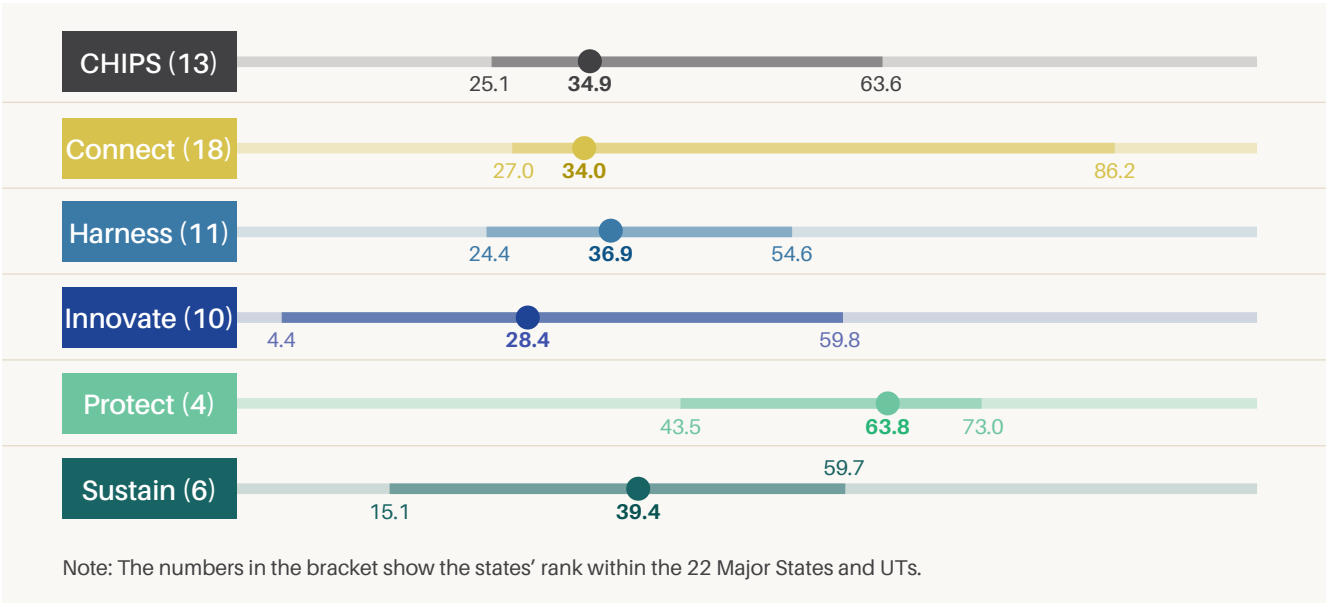
State At-A-Glance

Madhya Pradesh

The need for more widespread and inclusive access

Overall score and ranking

Madhya Pradesh ranks 13th in the CHIPS score, with Protect as its strongest Pillar (4th), followed by Sustain (6th), Innovate (10th) and Harness (11th).



Note: The numbers in the bracket show the states' rank within the 22 Major States and UTs.

Digital Pyramid

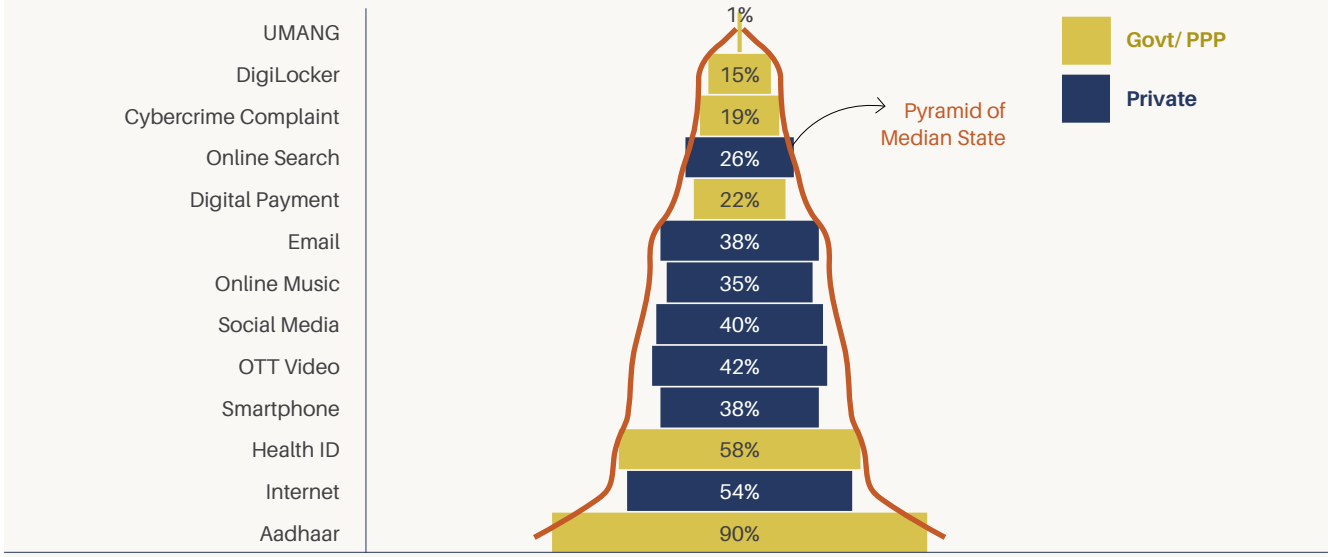
Connect is Madhya Pradesh's weakest pillar (18th) as reflected by its narrow digital pyramid. The use of shared devices, is helping bridge gaps in smartphone access – Madhya Pradesh has one of the highest ratios of internet users to smartphone users (1.42). Madhya Pradesh also showed he second highest growth in internet penetration between 2022 and 2024, but amongst the lowest growth in smartphone penetration, suggesting very high reliance on shared phones to improve connectivity. While this is an apt strategy for a state with a relatively low per capita income, policy measures to improve smartphone access will be essential ensure further and faster progress.

Within Harness, the adoption of public platforms is relatively high (7th rank). While the adoption of DPIs is still relatively low, the use of foundational DPIs for welfare related initiatives is relatively high, indicating need to improve coverage and an opportunity to benefit a large number of people, particularly given challenges with access to private applications.

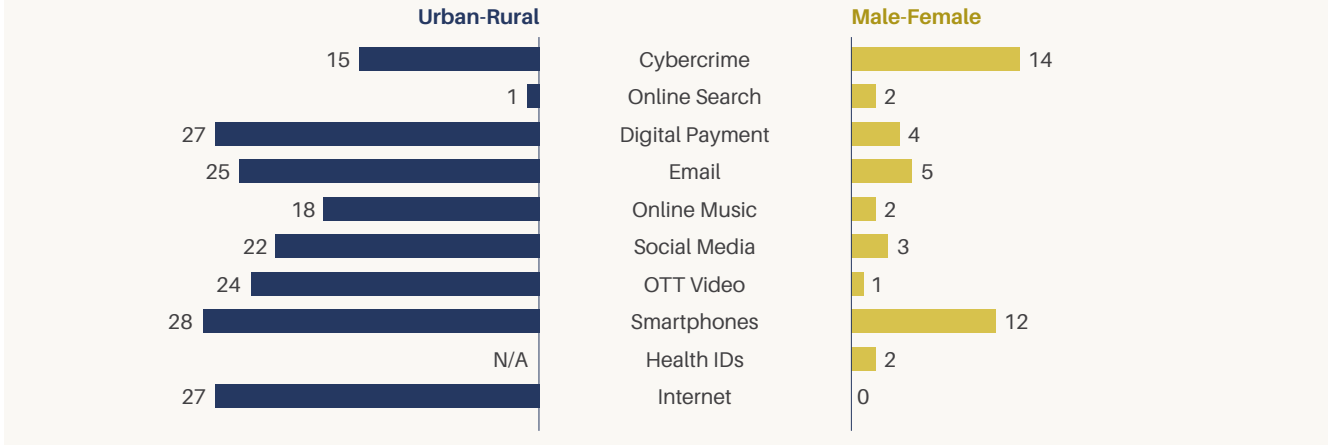
Digital Divides

Madhya Pradesh's low Connect score also reflects is relatively high gaps in access, particularly between urban and rural areas. While gender gaps in smartphone penetration is quite high, shared devices closes these gaps and does not appear to be affecting women's ability to harness various applications either. The urban-rural gaps in the use of applications are higher than the median for most indicators, partly a reflection of the divide in connect, but also a reflection of an additional usage gap amongst those connected.

Digital Pyramid (users as a percentage of population)



Digital Divides (in percentage points)



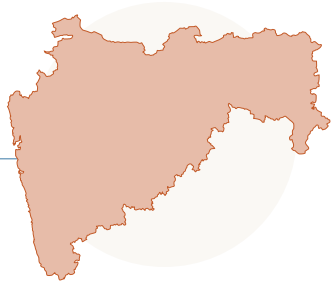
Source: ICRIER-Prosus Centre

Other notable observations

The state's relatively high ranks in MSME adoption and greening of data centers present opportunities for productive and sustainable digitalisation.

State At-A-Glance

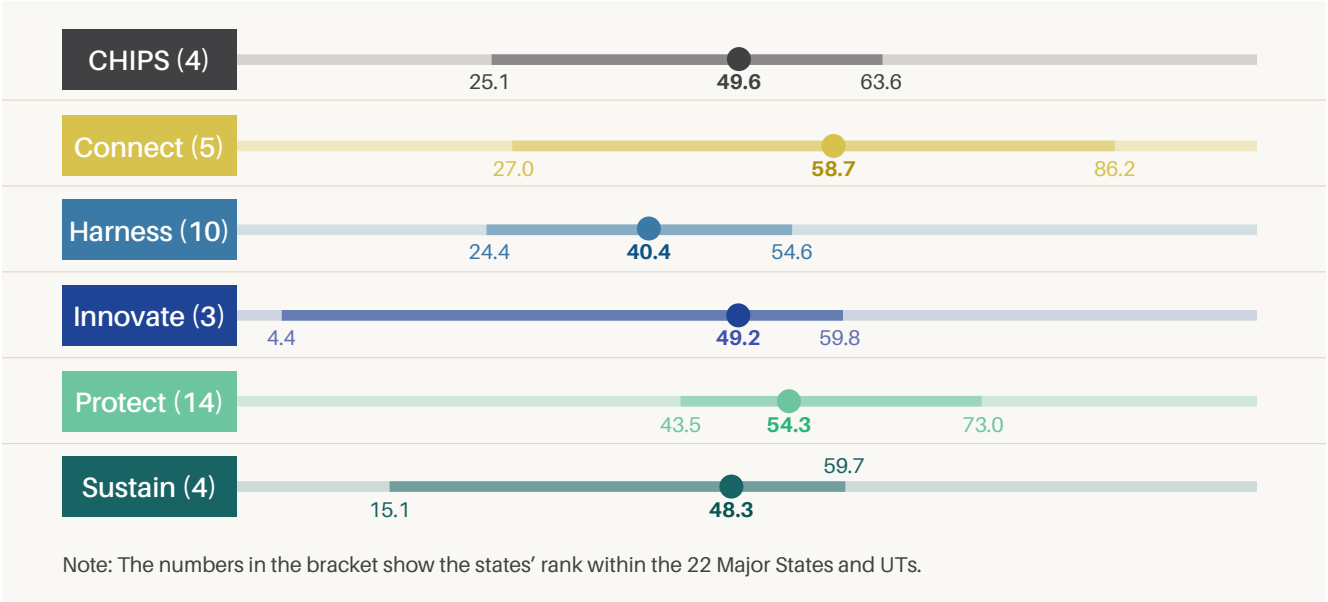
Maharashtra



Excelling at innovating and connecting citizens

Overall score and ranking

Maharashtra is the 4th most digitalised state and one of the most balanced digitalisers (low coefficient of variation across Pillar scores). Its highest rank is in Innovate (3rd), followed by Sustain (4th), Connect (5th) and then Harness (10th).



Note: The numbers in the bracket show the states' rank within the 22 Major States and UTs.

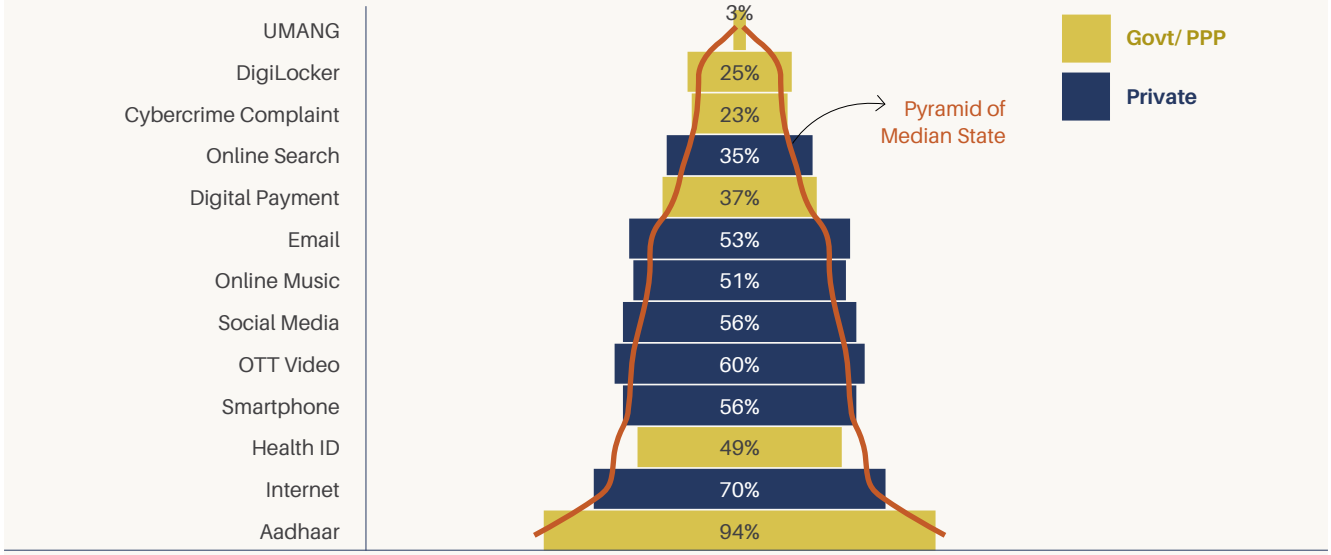
Digital Pyramid

The state's high score in connect is reflected in the wide digital pyramid. It ranks 8th in the use of Apps & platforms. On the public front, it ranks high in the use of public platforms, but very low on DPIs (18th). The coverage and use of foundational DPIs in Maharashtra is above average but not for sectoral DPI based applications. For example, its health ID is much lower than the median. This is also the case for DPIs related to Education, and Social Welfare & Employment.

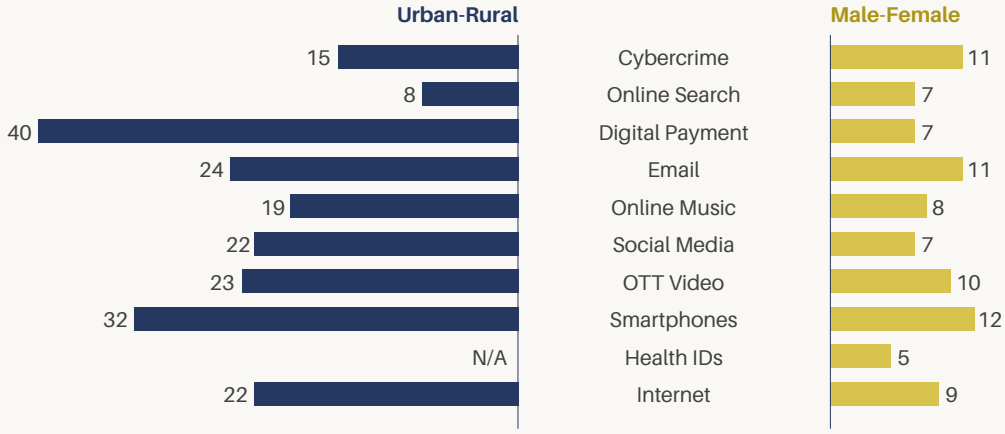
Digital Divides

Maharashtra has relatively high gender divides in access compared to other states (9 ppt, which is higher than the median of 5 ppt). While urban-rural divides are also quite high, shared devices appear to be promoting inclusion in rural area (urban-rural gap in smartphone use is much higher than the median, while the gap in internet use is at the median level). The geographical gap in digital payments is particularly stark.

Digital Pyramid (users as a percentage of population)



Digital Divides (in percentage points)



Source: ICRIER-Prosus Centre

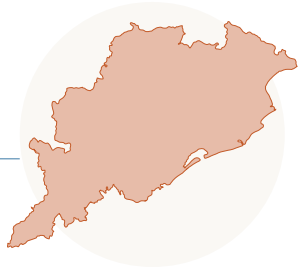
Other notable observations

Maharasthra's performance in Innovate is bolstered by high scores in both subillars. It stands out with the highest share of digital startups in recognised startups, and the second highest share of patented startups in the recognised digital startups[55].

[55] Recognised by the State Startup Policy, within 66 selected digital sectors.

State At-A-Glance

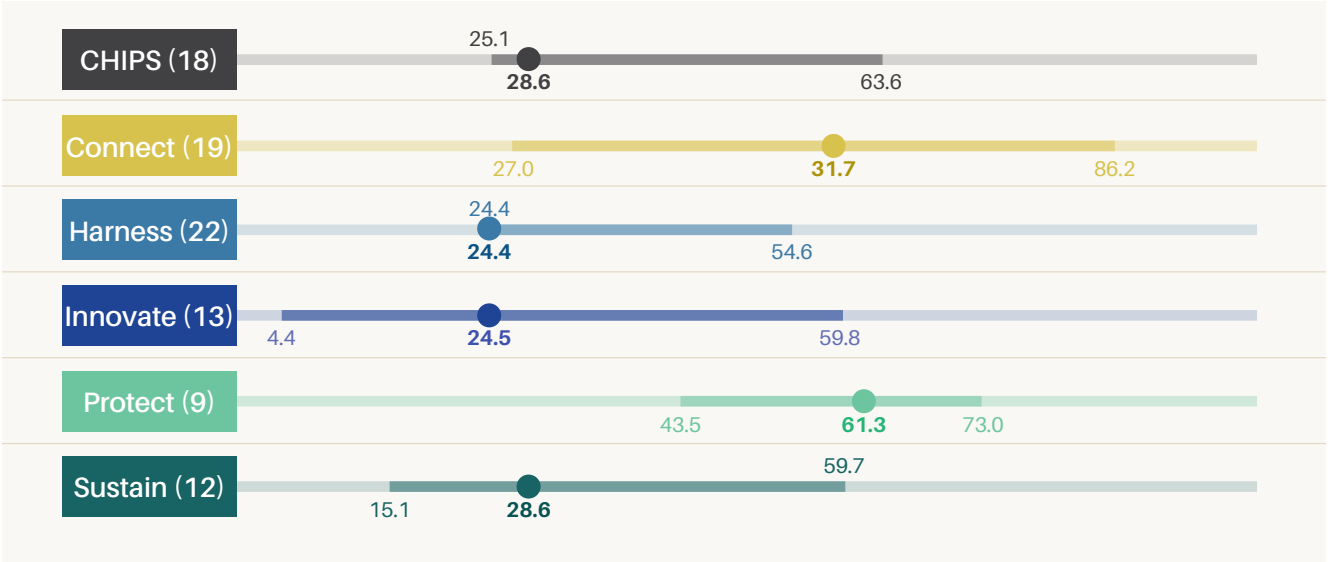
Odisha



Strong public sector coverage, need to boost private avenues

Overall score and ranking

Odisha ranks 18th in the CHIPS score, with three pillars in the 3rd quartile, (Protect, Sustain, Innovate) and two are in the fourth (Connect, Harness).



Digital Pyramid

Odisha's narrow pyramid reflects its low connect and harness scores. While it does have the lowest harness score, this is accentuated by its low base of connected individuals. For example, it is ranked 13th in the percent internet users using online music, but 19th in percent of population). Public sector efforts to improve access and use are reflected in indicators like service-ready points per Gram Panchayat (2nd highest), % of schools with Atal Tinkering labs (3rd), and % of government and government-aided schools with internet connection (8th). Primary health centres, however, remain largely unconnected.

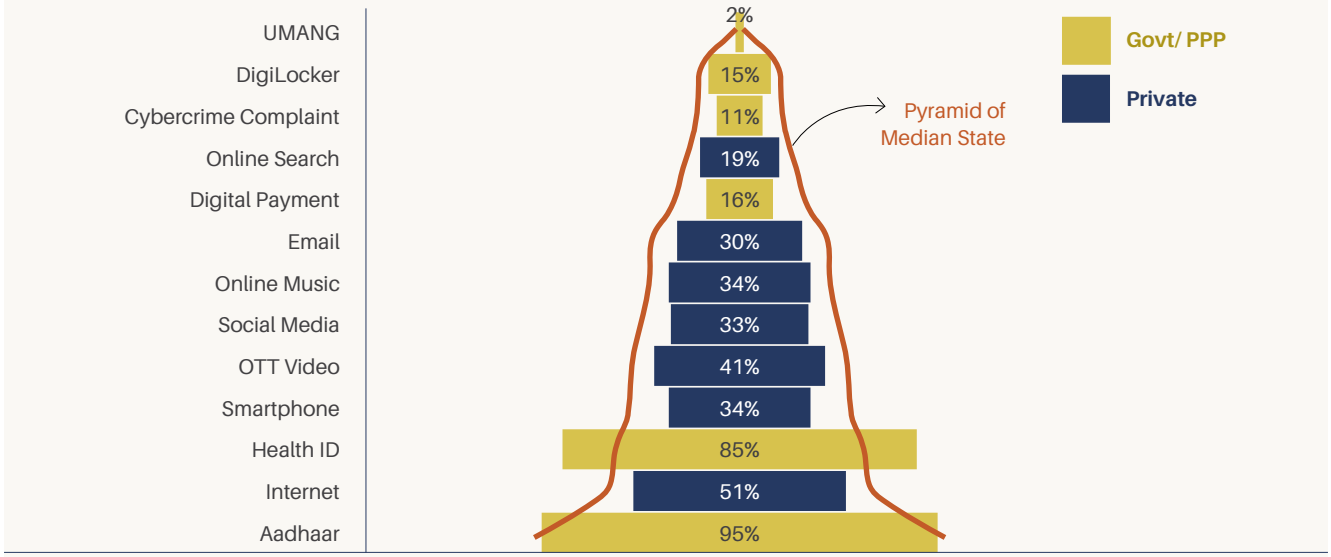
Within harness, Odisha ranks 22 in Apps & Platforms but 8 in DPIs. Even within DPIs, its coverage of public sector driven DPIs fares well, while private sector DPIs lags. For example, it has the 2nd highest penetration of Health IDs, but one of the lowest percent of population (and internet users) using digital payments. The state is well placed to leverage public sector avenues to deliver widespread benefits across sectors.

Digital Divides

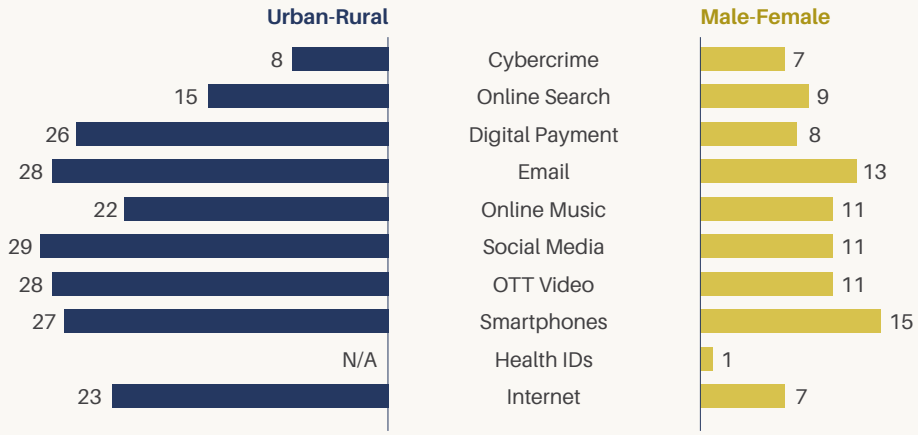
Odisha has by far the worst gender divides in access, while geographical divides are near average. The low access and use by the overall population, means the percentage point divides shown in the pyramid are even starker in terms of relative difference between two groups. With respect to harness, it is lagging on both the gender and geographical fronts. It is the state with the highest gender gap (and one of the highest geographical gaps) in every single indicator measuring the use of apps and platforms.

With the highest ratio of internet users to smartphone users, device sharing appears to be helping improve access and bridge gaps. While Odisha's use public sector avenues are helping narrow gaps and is a strength to be further leveraged, there is need to also boost private sector avenues to access.

Digital Pyramid (users as a percentage of population)



Digital Divides (in percentage points)



Source: ICRIER-Prosus Centre

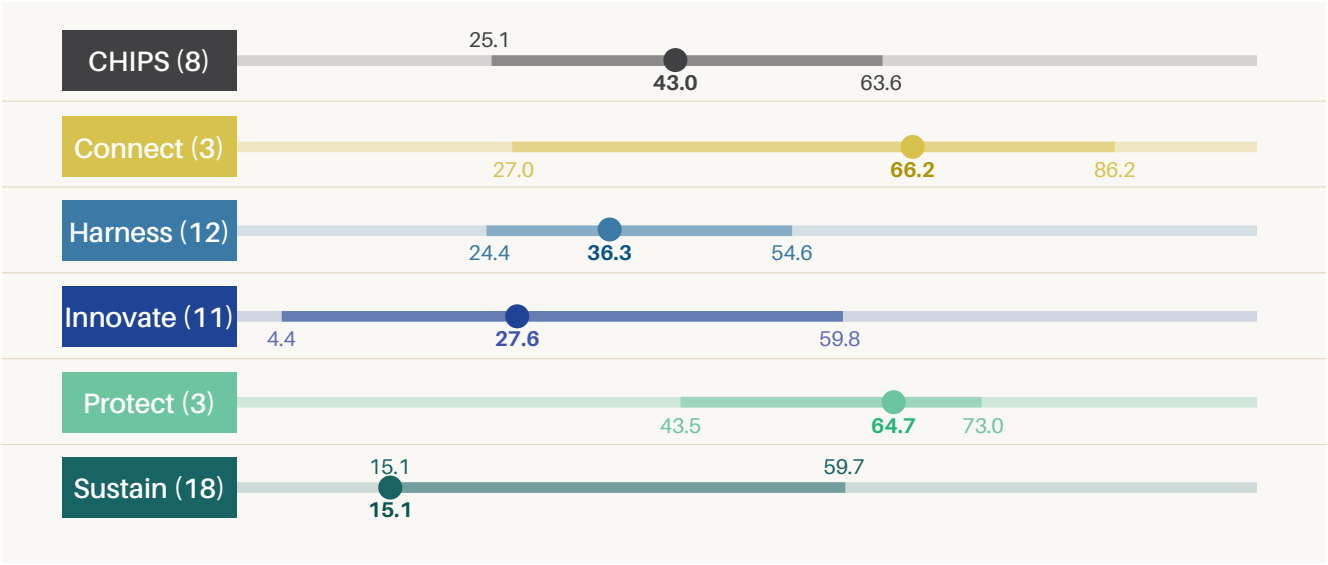
State At-A-Glance

Punjab

Well-connected base of individuals and institutions

Overall score and ranking

Punjab ranks 8th in the CHIPS score. Its strongest pillars are Connect and Protect (3rd), followed by Innovate and Harness.



Digital Pyramid

Punjab not only does well on individual access (as seen in the pyramid, with internet and smartphone penetration rates above the median) but also on public sector institutional access with the 3rd highest score on the Access (Government) subpillar. It has one of the highest percent of primary schools with computers and internet, the 4th highest percent of primary health care centers with broadband and is above the median on number service points per Gram Panchayat.

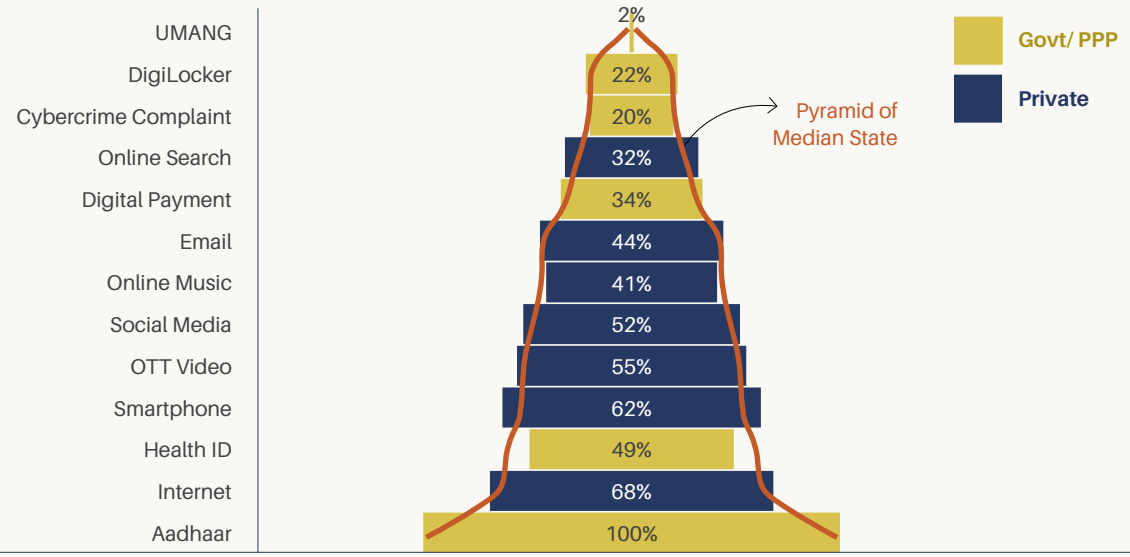
On the use of private applications, Punjab's pyramid is slightly wider than the median. This is partly due to its high base of connected individuals, given that the use amongst connected individuals is slightly below the median (15th on Apps & Platforms subpillar).

Punjab has strong coverage of foundational DPIs (digital ID, digital payments and data exchange) but relatively low coverage on sectoral DPIs. For example, it has one of the lowest penetrations of Health IDs (17th). Its coverage on DPIs within Education and Social Welfare & Employment is also relatively low. Its 5th rank in DPIs, is driven by coverage of foundational DPIs, inclusion in digital payments, and integration of institutions (e.g. last mile banks offering UPI, and last mile banks on Account Aggregator).

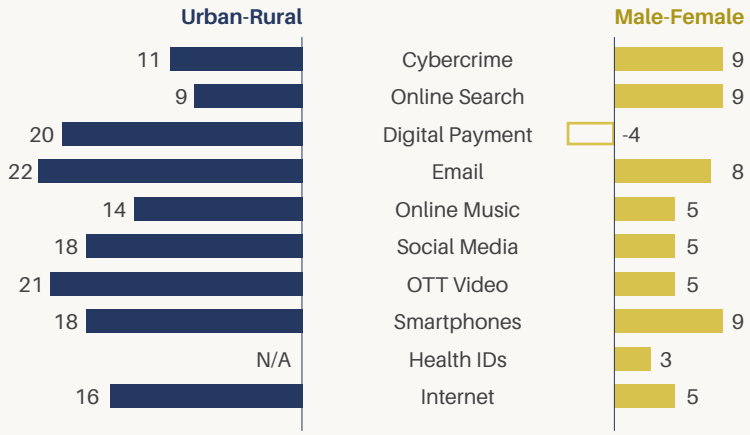
Digital Divides

Punjab does quite well on inclusion in access (3rd in Inclusion (Gender) and 5th in Inclusion (Geography) within Connect). This does not carry on to Harness, where it is near the median for gender inclusion but quite low on geographical inclusion. Further, the gap between smartphone and internet penetration is quite small indicating relatively less shared use.

Digital Pyramid (users as a percentage of population)



Digital Divides (in percentage points)



Source: ICRIER-Prosus Centre

Other notable observations

Punjab has the lowest score in Sustain amongst 18 states for which data available.

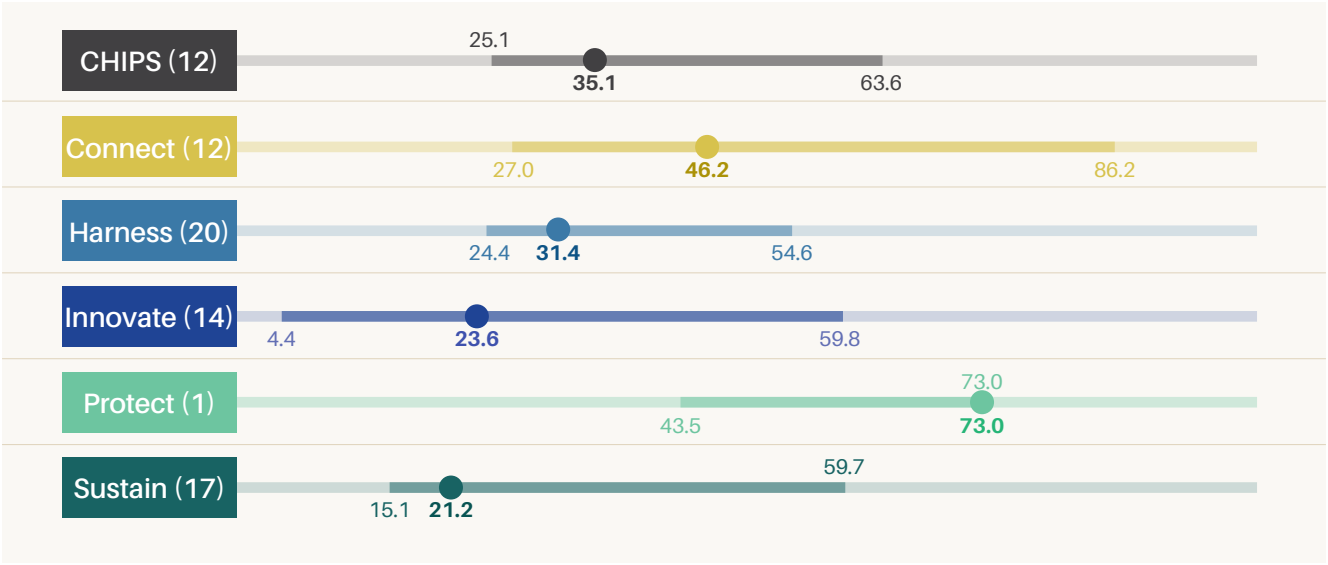
State At-A-Glance

Rajasthan

Geographically inclusive ascending digitaliser

Overall score and ranking

Rajasthan ranks 12th in the CHIPS score, leading in Protect (1st). It ranks 12th in Connect, 14th in Innovate and 17th in Sustain. Its weakest pillar is Harness (20th).



Digital Pyramid

While smartphone penetration is much lower than the median, internet use is at the median, suggesting shared use of devices making up for the former. Data from the alternative source (CMST), however, shows higher smartphone penetration than internet, and a relatively high rank for smartphone penetration (7th).

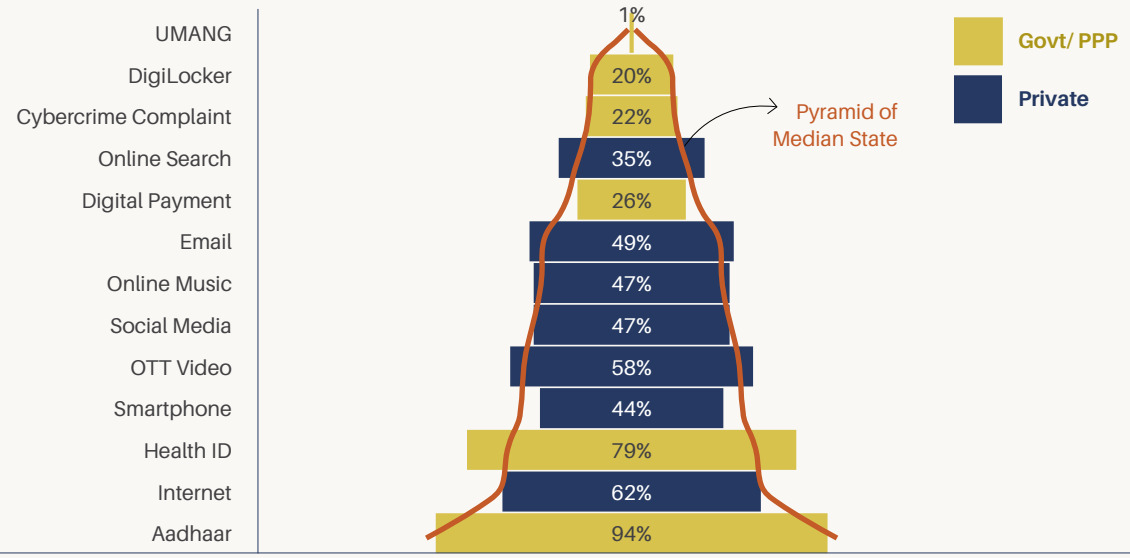
Within harness, it is ranked 7th on the Apps & Platforms subpillar, but 12th and 13th on DPIs and Public Platforms. Its penetration of digital payments is a little below the median (13th), however, its adoption has been relative inclusive on both the gender and geographical fronts. It is 4th on Digilocker and Health IDs. While coverage is relatively strong for both foundational and sectoral DPIs, its usage is strong only for the former. It has the highest number of DBT transactions per MNREGA worker, a result of local accountability mechanisms and collaboration with the state government. The state recently launched the Rajasthan Digital Health Mission (RDHM) to further strengthen the use of ABDM, the central health DPI[56].

[56] Government of Rajasthan (2025).

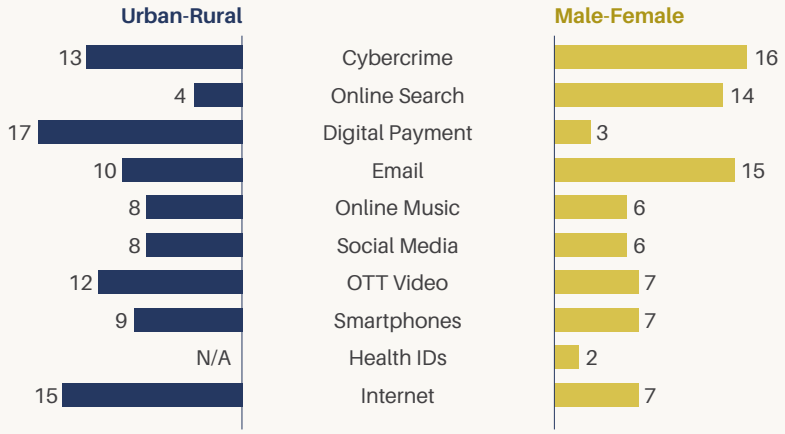
Digital Divides

Rajasthan does well on geographical inclusion in both connect and harness, much below the median for indicators of individual use in the pyramid. However, it lags on gender inclusion in access.

Digital Pyramid (users as a percentage of population)



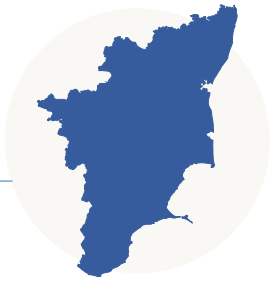
Digital Divides (in percentage points)



Source: ICRIER-Prosus Centre

State At-A-Glance

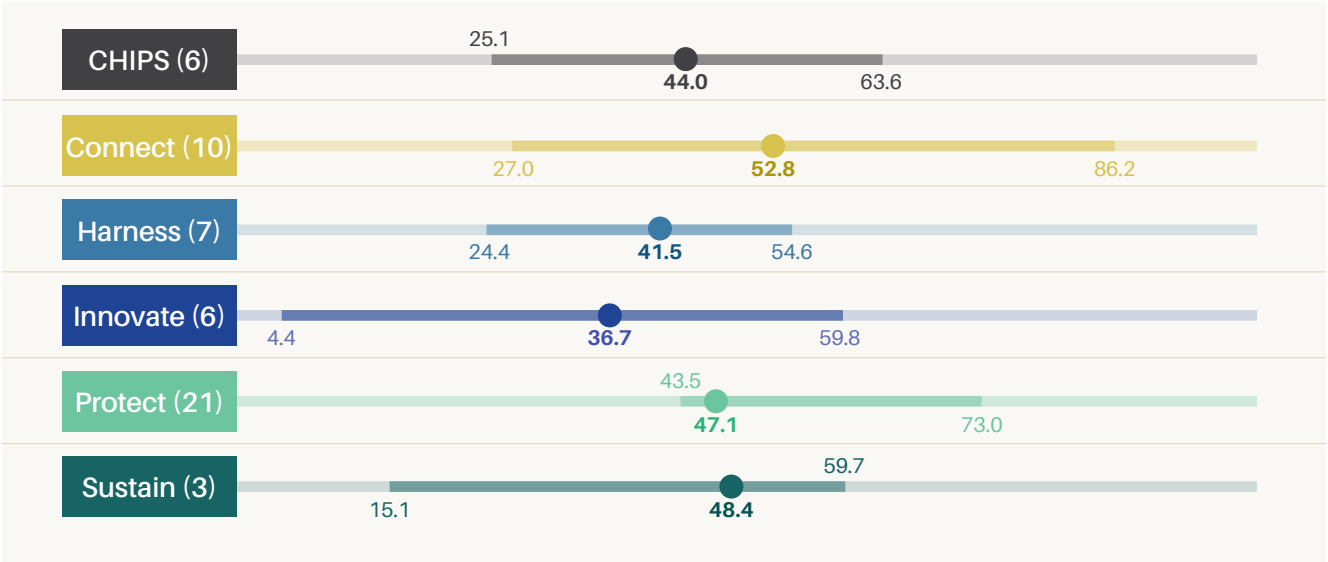
Tamil Nadu



Balanced advanced digitaliser with established state initiatives

Overall score and ranking

Tamil Nadu ranks 6th on the CHIPS score, with Sustain as its strongest pillar (3rd), following by Innovate (6th) and Harness (7th). It is one of the most balanced digitalisers with a low coefficient of variation in scores across pillars.



Digital Pyramid

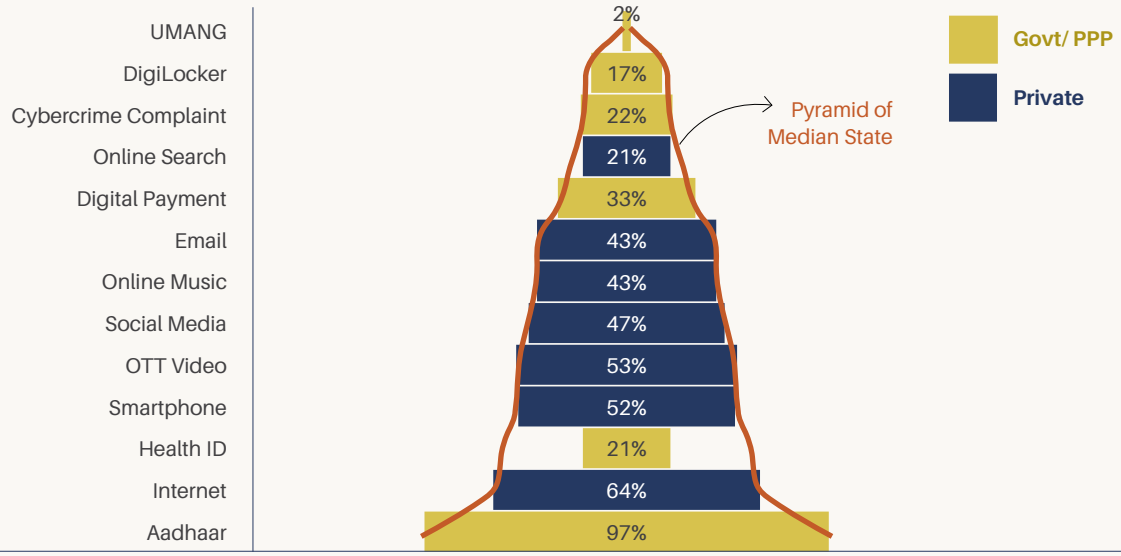
Tamil Nadu's pyramid mostly traces the median pyramid, with the exception of Health IDs, which is the lowest amongst all the major states. Tamil Nadu ranks 3rd on Public Platforms, but 13th on DPIs and 14th on Apps & Platforms. The lower score on DPIs is partly because of the state's own initiatives which are not integrated into central DPIs. For example, Tamil Nadu began digitalising health care in 2007 by introducing Health Management Information Systems as a tool to streamline healthcare management and improve service delivery[57]. The system is now operational across all Primary Health Centres (PHCs), Sub-District Hospitals, District Headquarter Hospitals and Medical Colleges. Tamil Nadu also has one of the lowest percent of last mile banks offering UPI and live on AAs. However, certain indicators such as DBT transactions per MNREGA worker is quite high.

[57] National Health Mission Tamil Nadu. (n.d.). Health Management Information System (HMIS). Government of Tamil Nadu.

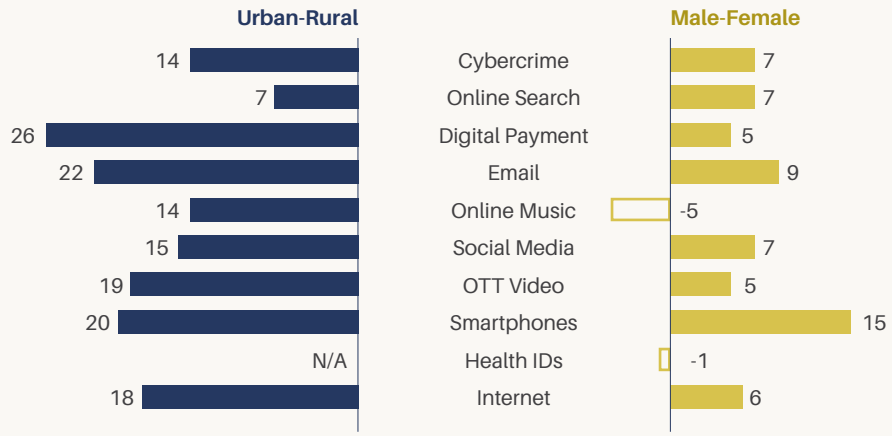
Digital Divides

Tamil Nadu is amongst the states with the lowest geographical divides in connect. On gender divides, however, it is a little above the median for most connect and harness indicators.

Digital Pyramid (users as a percentage of population)



Digital Divides (in percentage points)



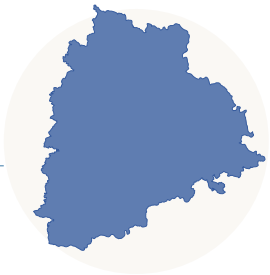
Source: ICRIER-Prosus Centre

Other notable observations

Within Innovate, it is ranked 2nd in Knowledge Production and 12th on Investments, Startups & Businesses. It has the most universities in the top 100 according to the 2024 National Institutional Ranking Framework. Its 3rd rank in Sustain stems from use of software to improve sustainability in Energy Management, and Environment, Health, & Safety.

State At-A-Glance

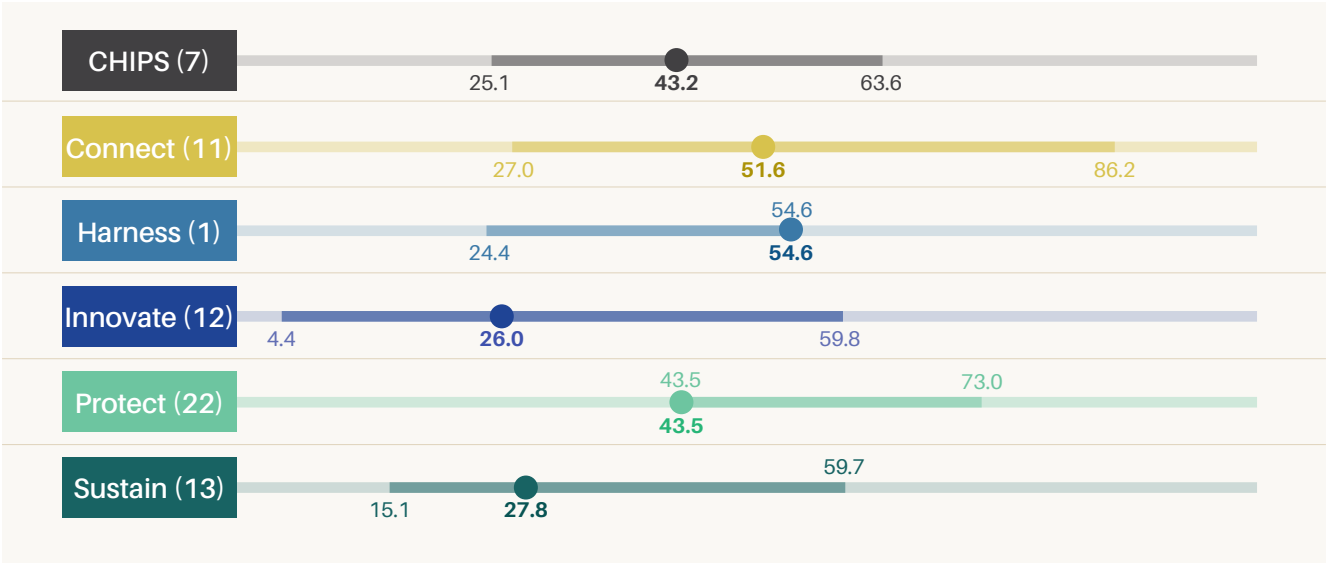
Telangana



Leading in harness through an uneven path

Overall score and ranking

Telangana ranks 7th on the CHIPS score. It is the leading state on Harness, 11th on Connect, 12th on Innovate, 13th on Sustain and last on Protect.



Digital Pyramid

Telangana seems to exceed the median pyramid for most indicators of individual use in both connect and harness. While smartphone use is below the median, there appears to be significant use of shared devices, resulting in internet use above the median. The CMST data, however, shows a negligible difference between smartphone (73%) and internet penetration (72%).

While Telangana does have the highest harness score, it takes quite an unbalanced pathway to this. It is 1st in the MSMEs subpillar but 18th in Apps & Platforms, with one of the highest gender divide in harness. Its scores MSME subpillar is the highest for four out of five indicators, and are much higher than the next highest state.

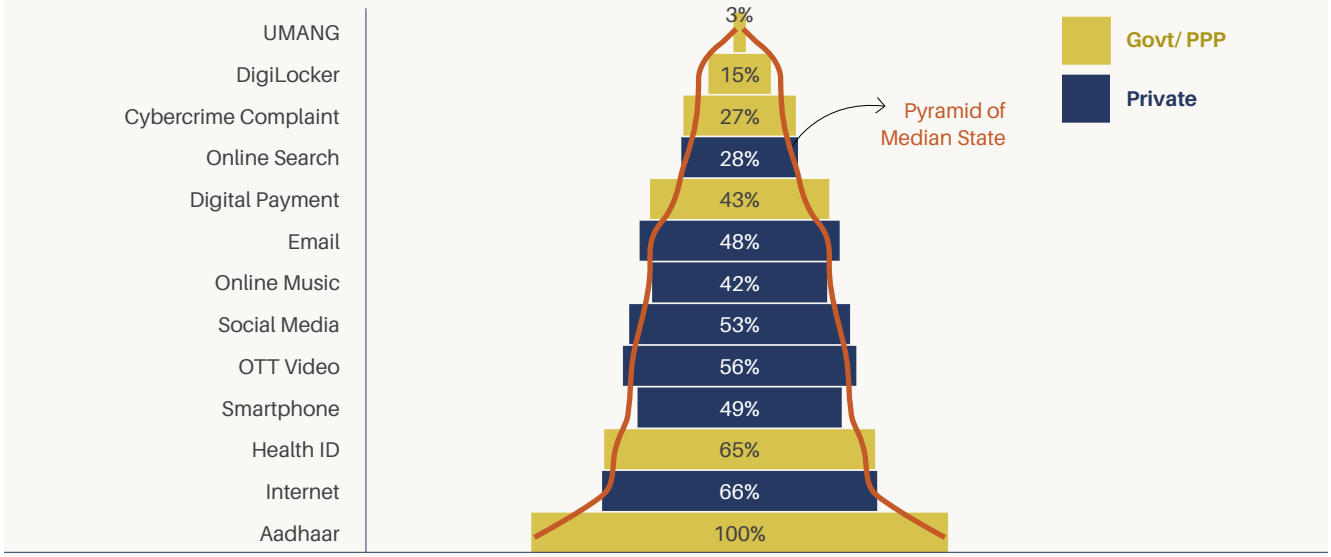
Digital Divides

Telangana has one the highest urban-rural gaps in smartphone access, reflected in the digital pyramid, while the urban-rural gap in internet use is close to the median. Geographical inclusion in harness, however,

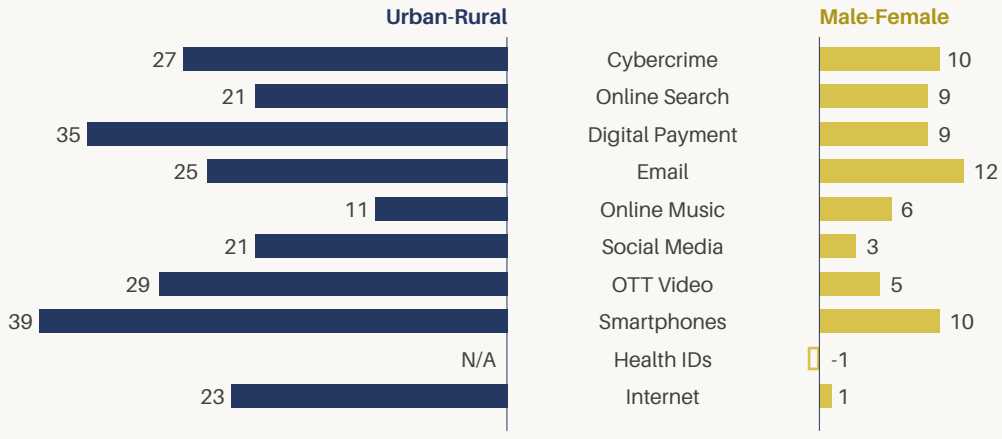
is close to the median. The large values in the divides pyramid are therefore reflective of large access gaps. Initiatives like the T-Fibre project indicate the state's ongoing efforts to enhance rural connectivity and digital inclusion.[58,59]

On the gender front, Telangana has one of the highest gender divides in harness, but not so much in connect. Once women have access to the internet, they are not using it for many things apart from social media.

Digital Pyramid (users as a percentage of population)



Digital Divides (in percentage points)



Source: ICRIER-Prosus Centre

[58] DC Correspondent (2025, May 18)
[59] The Hindu Bureau. (2025, October 8).

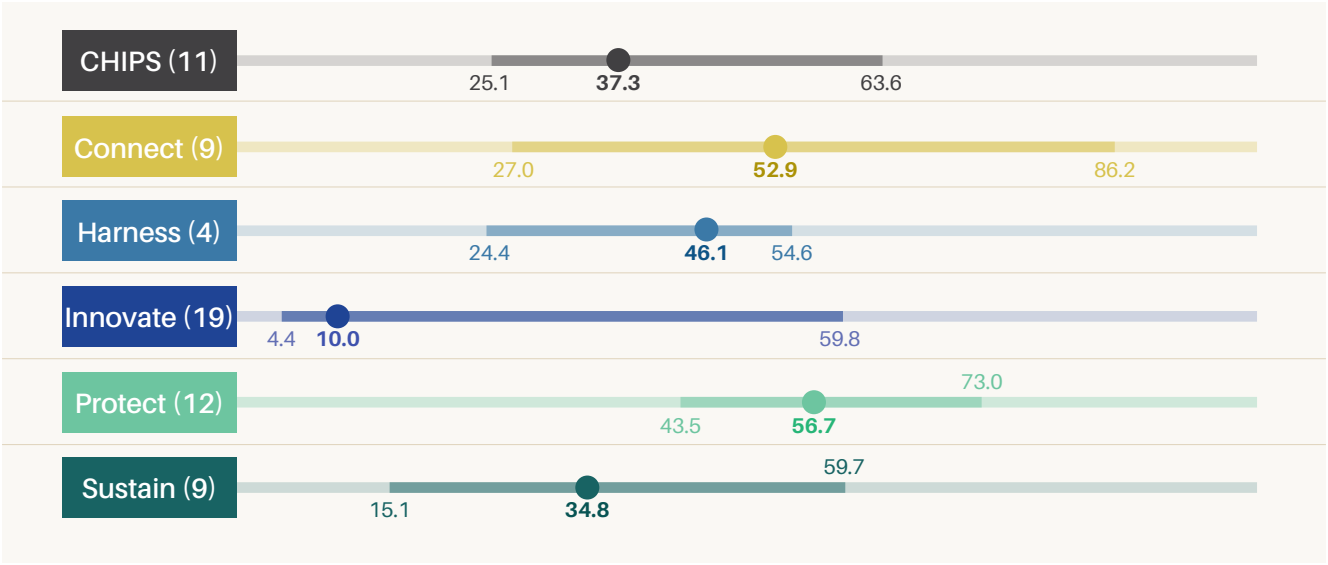
State At-A-Glance

Uttarakhand

Harnessing the slowly-growing, geographically-inclusive access

Overall score and ranking

Uttarakhand ranks 11th in the CHIPS score, with Harness (4th) as its strongest pillar, followed by Connect (9th) and Sustain (9th), and Protect (12th).



Digital Pyramid

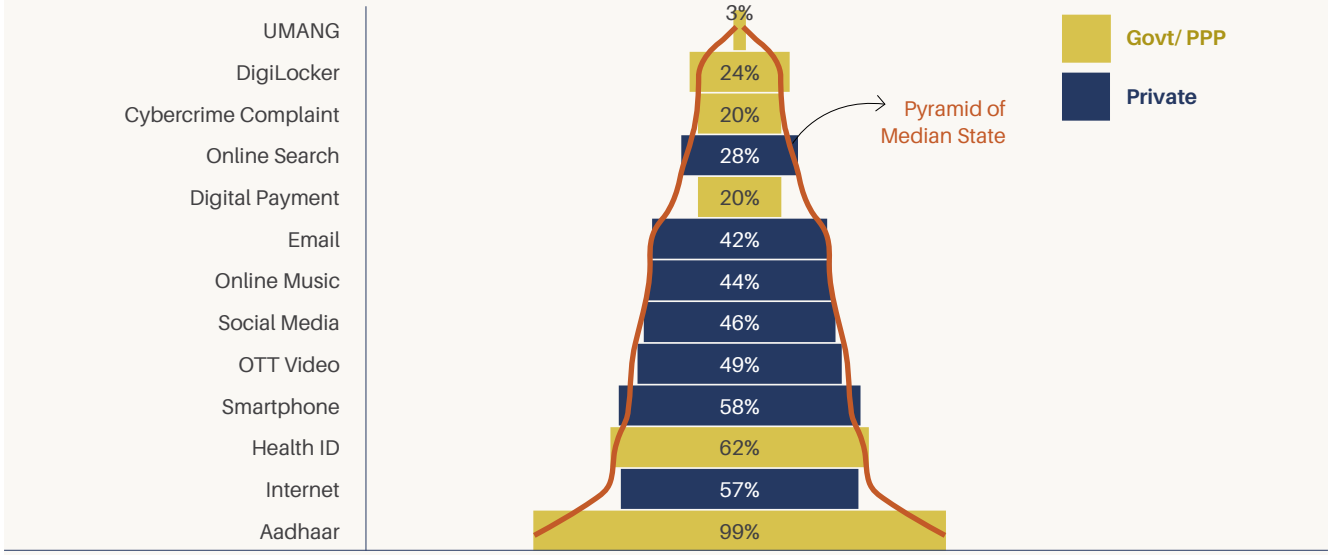
Uttarakhand traces the median pyramid of individual use for most indicators, despite a lower percent of population using the indicator. This is because of its high harness score which is based on percent of internet users using various applications. So, while access to the internet is a little lower, those who do have access are more likely to use various applications. There also appears to be limited shared use of devices, which tends to bring the internet penetration a little high than the smartphone penetration for most states.

Its strong Harness score is driven by high ranks in Apps & Platforms (4th) and Public Platforms (4th), a relatively high rank in DPIs (8th). While it has relatively high coverage of both foundational and functional DPIs more generally, it is lagging on all aspects of digital payments (individual use as well as last mile bank integration). It also does relatively well on the usage of DPIs for welfare (e.g., AePS transactions per Aadhaar) and health (linking of health records with ABHA).

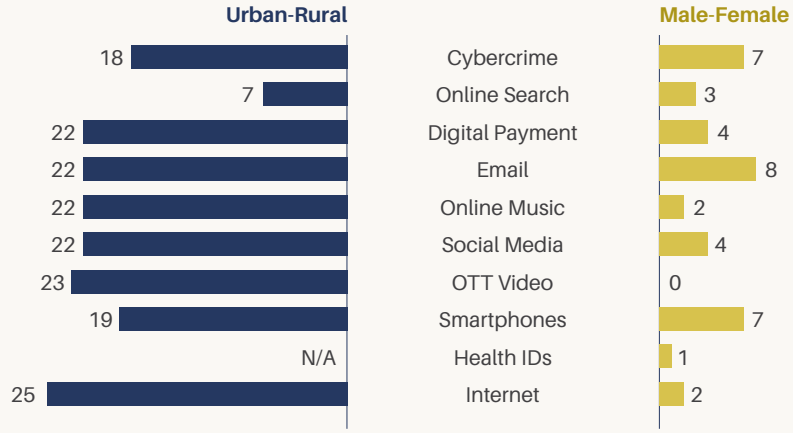
Digital Divides

Uttarakhand has relatively low divides in access both on the gender and geographical front. It is ranked 2nd on the Inclusion (Geography) subpillar and 4th on Inclusion (Gender). It also moderately inclusive within Harness, more so on the geographical than gender front.

Digital Pyramid (users as a percentage of population)



Digital Divides (in percentage points)



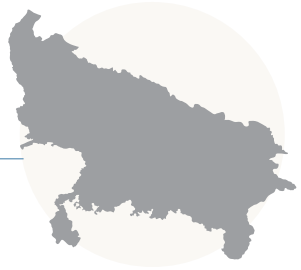
Source: ICRIER-Prosus Centre

Other notable observations

Uttarakhand has the has the highest percent of revenue from green data centers, despite a relatively small data center market. However, it has the lowest score on two other Sustain subpillars (the use of software to improve sustainability in Energy Management, and Environment, Health, & Safety).

State At-A-Glance

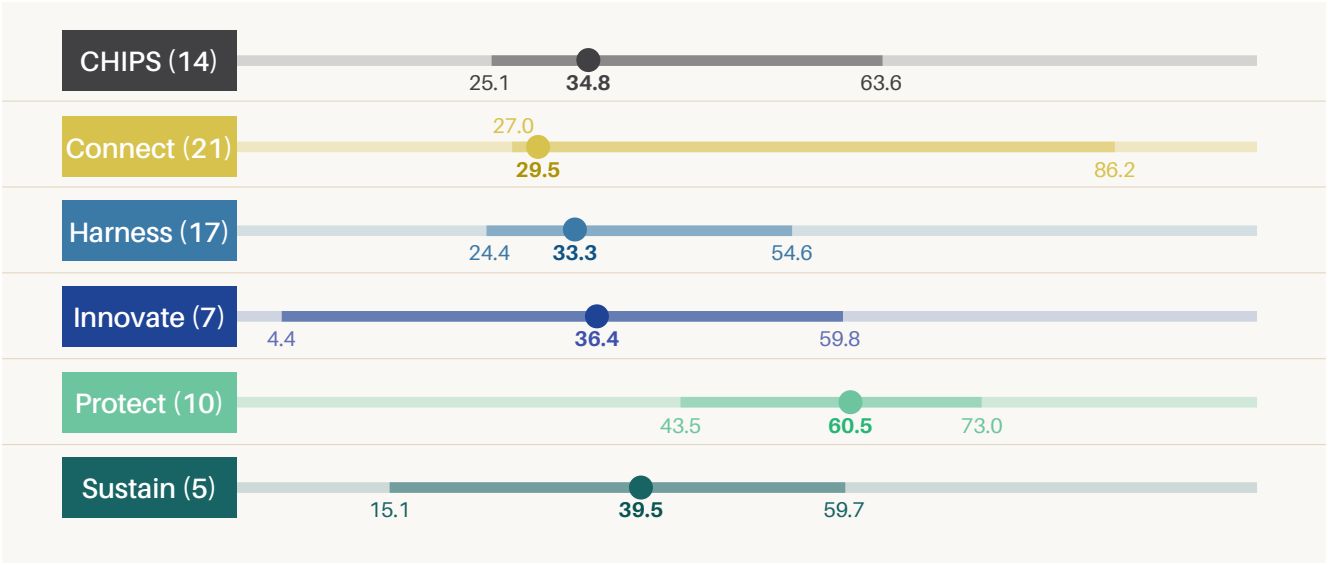
Uttar Pradesh



Weak on individual connectivity but potential for innovative firm-level digitalisation

Overall score and ranking

Uttar Pradesh is ranked 14th in the CHIPS score. Its strongest pillar is Sustain (5th), followed by Innovate (7th) and Protect (10th). Harness (17th) and Connect (21st) are its weakest pillars.



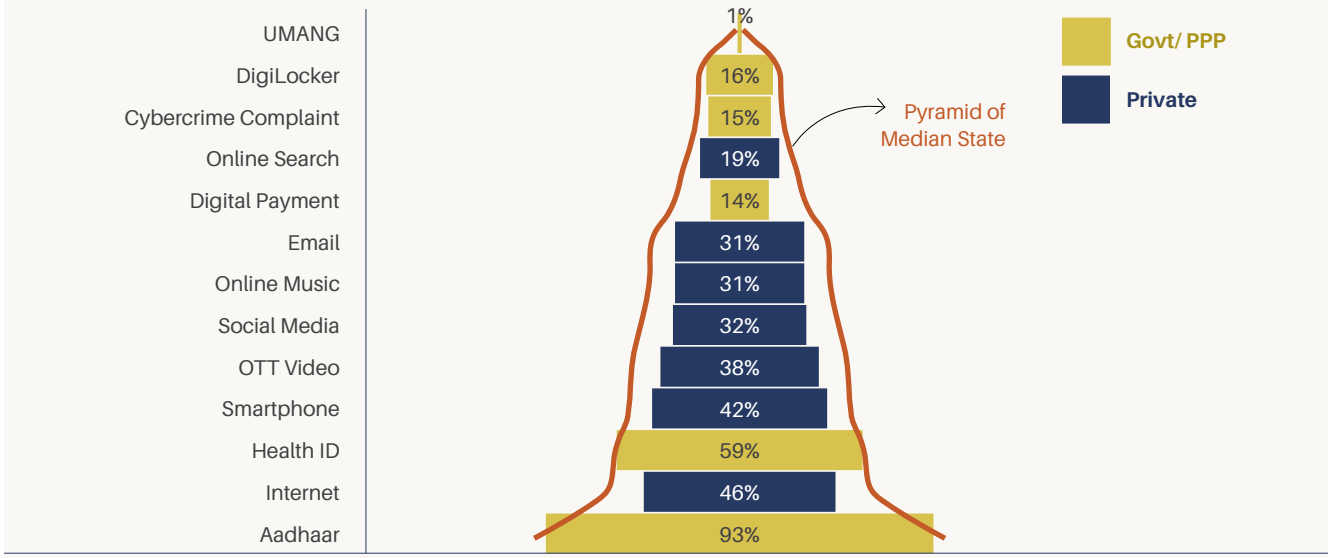
Digital Pyramid

Uttar Pradesh's digital pyramid is much narrower than the median pyramid on all indicators except for Health IDs. It ranks amongst the lowest in all Connect subpillars, and all Harness subpillars except MSMEs (8th) and Public Platforms (15th). The state's coverage and usage of foundational DPIs is amongst the lowest, while its coverage and use of sectoral DPIs is moderate. The share of MSMEs reporting that they sell products through mobile applications (59%) is relatively high. A caveat of this data, however, is that it is from a self-selected survey of MSMEs conducted by Vodafone Idea's ReadyForNext initiative, and further exploration would provide useful insights on possible firm based digitalisation within the state.

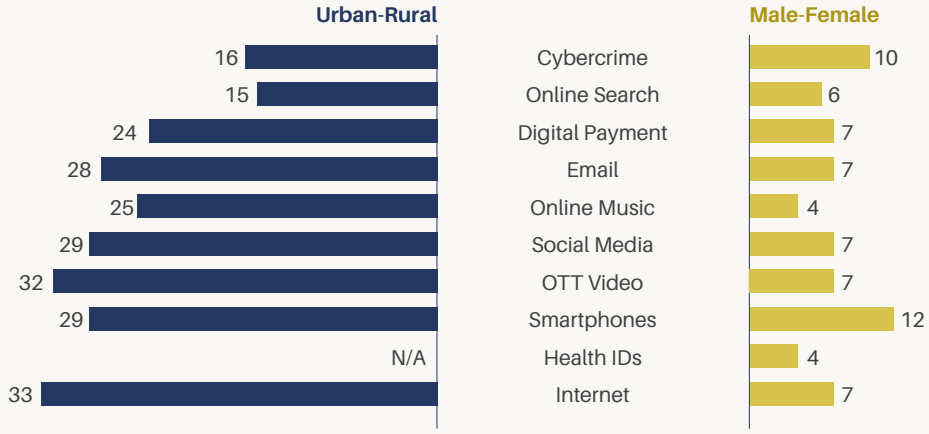
Digital Divides

Uttar Pradesh is relatively less inclusive on both Connect and Harness, both on the gender and geographical fronts. While the overall adoption of digital payments is relatively low, the gender divides is particularly high (3rd highest after Bihar and Jharkhand).

Digital Pyramid (users as a percentage of population)



Digital Divides (in percentage points)



Source: ICRIER-Prosus Centre

Other notable observations

Uttar Pradesh's high Innovate rank is driven by high ranks on both subpillars: 6th on Investments, Startups and Business, and 9th on Knowledge Production. The state has the lowest amount amount Reported per incident reported, probably a reflection of a combination of factors including lower targeting, lower value frauds, and lower reporting.

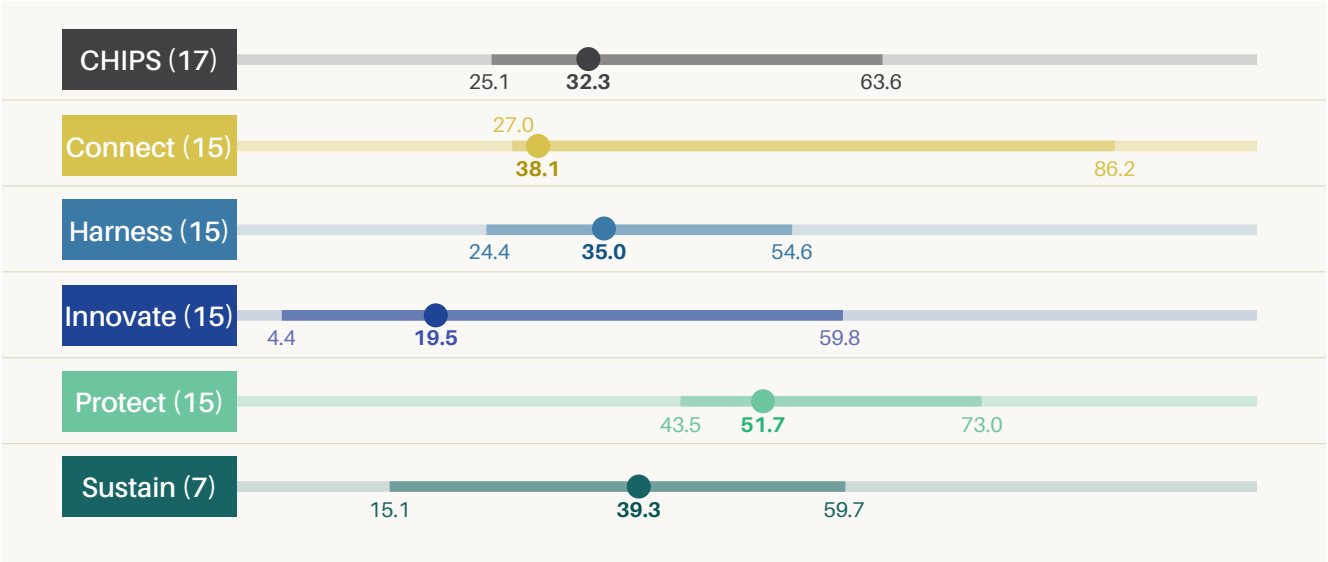
State At-A-Glance

West Bengal

More inclusive individual access through private and public avenues can complement wider institutional access

Overall score and ranking

West Bengal is ranked 17th in the CHIPS score. Sustain is its strongest pillar (7th) and the remaining four pillars are in the third quartile (all ranked 15).



Digital Pyramid

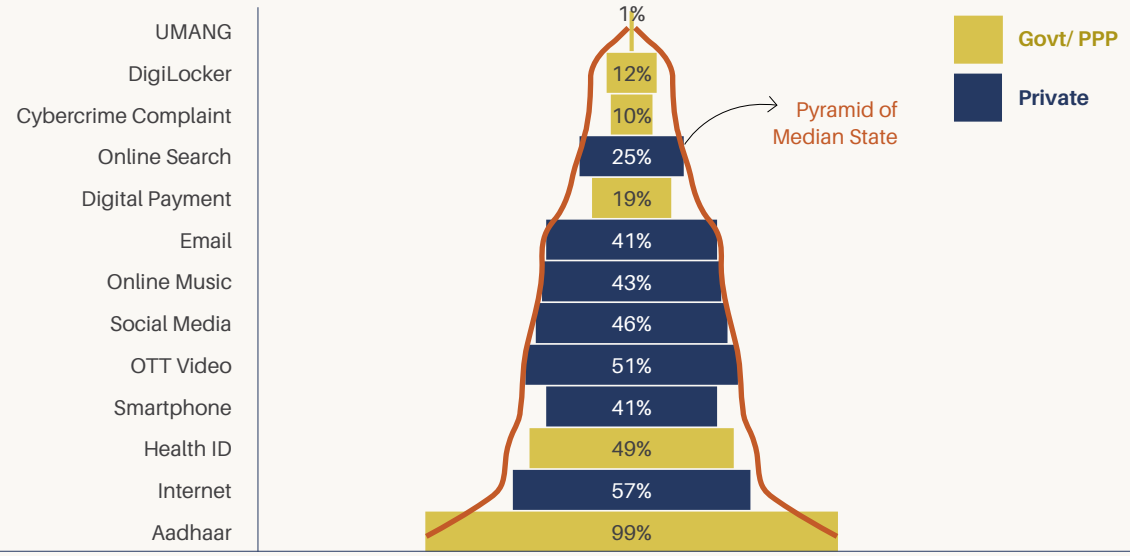
While West Bengal ranks relatively low on most Connect and Harness subpillars, it is ranked 4th on Access (Government), 3rd on MSMEs and 11th on Apps & and Platforms. It is amongst the highest on a few indicators of government access, such as connectivity within primary healthcare centers and service-ready points per Gram Panchayat. The share of MSMEs selling on their own website and social media is quite high, however, this data is from a self-selected survey of MSMEs conducted by Vodafone Idea's ReadyForNext initiative. A better understanding of business adoption could provide useful insights on possible firm-based digitalisation within the state. The close to median performance on Apps & Platform is reflect in the pyramid with indicators of individual use mostly tracing the median. The relatively low adoption of DPIs visible in the pyramid is also reflected in the DPI subpillar score which is amongst the lowest (21st). West Bengal has low coverage but moderate usage on foundational DPIs. Its adoption and use of functional DPIs is also amongst the lowest. This is partly because of the existence of other state initiatives that have not yet been integrated into the central DPIs measured in this report. For example, an Integrated Health Management System has been in place since 2003, and a telemedicine scheme since 2021, with recent efforts to integrate them with ABDM[60]

[60] Ayushman Bharat Digital Mission. (n.d.).

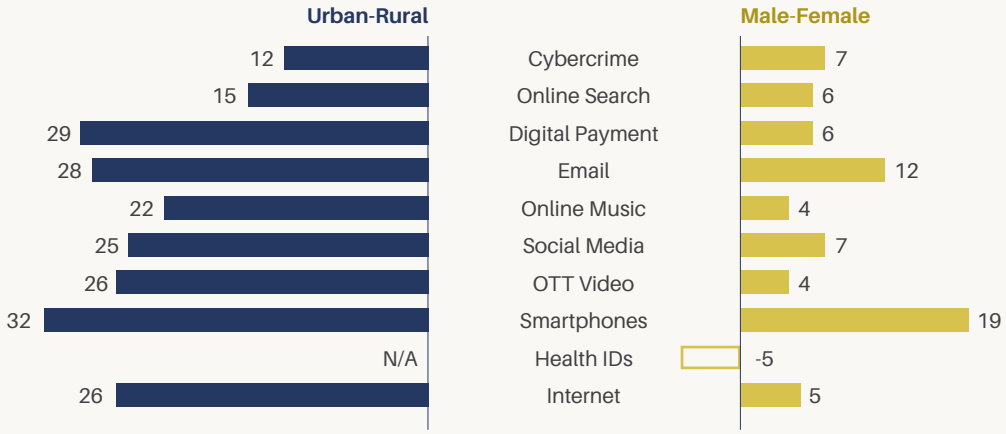
Digital Divides

West Bengal has one of the largest gender and urban-rural divides in access. Gender divides in harness are also quite high. While geographical divides in harness are relatively better, they are still below the median.

Digital Pyramid (users as a percentage of population)



Digital Divides (in percentage points)



Source: ICRIER-Prosus Centre

References and Bibliography

Adityanath, Y. (2021). Uttar Pradesh Data Center Policy 2021. In Department of IT & Electronics, Government of Uttar Pradesh. https://invest.up.gov.in/wp-content/uploads/2021/09/DC-Policy-2021-Eng-final_page-f.pdf

Aruna. (2024). Maharashtra approves green data centre parks to boost digital infrastructure - Telecom Review Asia. Telecom Review Asia. https://www.telecomreviewasia.com/news/network-news/4582-maharashtra-approves-green-data-centre-parks-to-boost-digital-infrastructure/

Ayushman Bharat Digital Mission. (n.d.). Integration Of State Health Programs/ Digital Solutions. Case Study: West Bengal. National Health Authority.

Barman, Violina., Council for Social and Digital Development (CSDD), & Digital Empowerment Foundation (DEF). (2023). The state of access, digital connectivity, and inclusion in north Eastern region of India. In Connecting North Eastern Himalayas. https://www.defindia.org/wp-content/uploads/2023/07/The-State-of-Access-Digital-Connectivity-and-Inclusion-in-North-Eastern-Region-of-India-2023_PRINT-1.pdf

Bera, A. (2025, June 2). Small-town Bet delivers the goods for Meesho. Financial Express. https://www.financialexpress.com/business/industry/small-town-bet-delivers-the-goods-for-meesho/3864960/

Chief Minister of Uttar Pradesh Yogi Adityanath and Union Minister for Science & Technology Dr. Jitendra Singh today lay the foundation stone of state-of-the-art Green Data Centre at Central Electronics Limited (CEL), Ghaziabad, UP. (n.d.). https://www.pib.gov.in/PressReleasePage.aspx?PRID=2139953

Correspondent, T. (2025, November 1). Karnataka Accounts for Over 25% of India's Cybercrimes, Says Top Police Official. The420.in. https://the420.in/karnataka-cybercrime-report-2025-adgp-alok-kumar-digital-fraud/

DC Correspondent (2025, May 18). Deccan Chronicle. Deccan Chronicle. https://www.deccanchronicle.com/southern-states/telangana/telangana-still-has-over-300-villages-without-mobile-coverage-1879744

Department of Commerce & Industries, Government of Chattisgarh. Startup. https://oneclick.cgstate.gov.in/focus-sector-detail/23

Digital Gap of Bihar and Jharkhand – Understanding Issues and Impacts of Digital Literacy on Women Entrepreneurs of Bihar and Jharkhand. (2021). https://www.defindia.org/wp-content/uploads/2021/04/Oracle-Report-2.pdf

Digital India: Technology to transform a connected nation. (2019). In https://www.mckinsey.com/capabilities/tech-and-ai/our-insights/digital-india-technology-to-transform-a-connected-nation.

Drolia, R. (2025). India's first AI-based data center park to come up in Chattisgarh's Nava Raipur. https://timesofindia.indiatimes.com/city/raipur/indias-first-ai-based-data-center-park-to-come-up-in-chhattisgarhs-nava-raipur/articleshow/120852515.cms

Elets eGov. (2025, January 3). Exploring E-Waste Management in West Bengal: A Look at WEBEL's ESG Approach. https://egov.eletsonline.com/2025/01/exploring-e-waste-management-in-west-bengal-a-look-at-webels-esg-approach/

Express News Service. (2025). Maha govt plans health war room, to integrate all Central and state schemes. The Indian Express. https://indianexpress.com/article/cities/mumbai/maha-govt-plans-health-war-room-all-central-and-state-schemes-10313095/

Express News Service. (2025, July 15). Kerala to launch special e-waste collection drive. The New Indian Express. https://www.newindianexpress.com/states/kerala/2025/Jul/15/kerala-to-launch-special-e-waste-collection-drive

Government of Rajasthan. 2025. Department of Medical, Health & Family Welfare. https://rajswasthya.rajasthan.gov.in/nhmpro.php#:~:text=To%20further%20strengthen%20the%20ABDM,Implementing%20electronic%20health%20records%20(EHRs)

GSMA, 2025. Barriers to Mobile Internet Adoption and Use. The State of Mobile Internet Connectivity 2025. https://www.gsma.com/somic/wp-content/uploads/2025/11/The-State-of-Mobile-Internet-Connectivity-2025-Barriers-to-Mobile-Internet-Adoption-and-Use.pdf

HT News Desk. (2024, January 8). Northeast, Hindi heartland emerging as new e-commerce hotspots: Study| Business News. Hindustan Times. https://www.hindustantimes.com/business/northeast-hindi-heartland-emerging-as-new-e-commerce-hotspots-study-101704683390156.html

India consumer Electronics market size to hit USD 162.74 BN by 2034. (n.d.-b). https://www.cervicornconsulting.com/india-consumer-electronics-market

Times of India. (2025, November 14). Gujarat energy minister launches portal to enhance automation in electricity distribution. The Times of India. https://timesofindia.indiatimes.com/city/ahmedabad/gujarat-energy-minister-launches-portal-to-enhance-automation-in-electricity-distribution/articleshow/125335224.cms

IT & ITES, drone, data centres, startups, and electronics. (2022a). [Slide show]. https://investuttarakhand.uk.gov.in/themes/backend/uploads/focus_Sector_IT&ITeS.pdf.

Kearney India Digital Commerce Index, in collaboration with Meesho. (2024, January 8). https://www.kearney.com/industry/consumer-retail/article/kearney-india-digital-commerce-index-in-collaboration-with-meesho

Kerala Industrial Infrastructure Development Corporation. (n.d.). THE NEW FACE OF ELECTRONICS MANUFACTURING IN INDIA. https://kinfra.org/wp-content/uploads/2013/04/Binder3.pdf

Kerala: Driving India's hardware startup revolution. (n.d.). https://asset.inc42.com/reports/Kerala:_Driving_India%E2%80%99s_Hardware_Startup_Revolution_Report_2021.pdf

Knn India - Knowledge & News Network. (n.d.). CtrlS Inks MoU With Uttarakhand Govt To Set Up Data Center In State. www.knnindia.co.in. https://knnindia.co.in/news/newsdetails/state/uttarakhand/ctrls-inks-mou-with-uttarakhand-govt-to-set-up-data-center-in-state

Kumar, D. V. (2024, October 22). K-FON, Digi Keralam but gap in access: Kerala's push for digital literacy. The South First | News, Politics, Sports, Entertainment & Live Updates. https://thesouthfirst.com/kerala/k-fon-digi-keralam-but-gap-in-access-keralas-push-for-digital-literacy/

Malik, F. (2025, October 10). Maharashtra allows data centres to set up power energy generation and distribution plants | Mumbai news. Hindustan Times. https://www.hindustantimes.com/cities/mumbai-news/maharashtra-allows-data-centres-to-set-up-power-energy-generation-and-distribution-plants-101760120845339.html

Mishra, D., Kedia, M., Reddy, A., Ramnath, K., & Vanguri, S. (2025). State of India's Digital Economy 2025. IPCIDE, Indian Council for Research on International Economic Relations (ICRIER)

Mondal, S., & Mondal, S. (2025, July 19). MP Govt Signs Deal with Submer to Build Eco-Friendly AI Data Centres. Analytics India Magazine. https://analyticsindiamag.com/ai-news-updates/mp-govt-signs-deal-with-submer-to-build-eco-friendly-ai-data-centres/

Mordor Intelligence. 2025. Indexing of Green Technology and IT for top 18 States in India (2024).

Morgan Stanley. (2023). India smartphone market expected to triple | Morgan Stanley. https://www.morganstanley.com/ideas/india-smartphone-market-growth

News Desk. (2025). Maha govt plans health war room, to integrate all Central and state schemes. News18.com. https://www.news18.com/india/from-policy-to-action-maharashtra-minister-calls-for-stronger-centre-state-skill-coordination-ws-kl-9585047.html

Nigam, S. (2024, December 22). BSNL gifts high-speed 4G connectivity to Bihar with 2000 new towers. India TV. https://www.indiatvnews.com/technology/news/bsnl-gifts-high-speed-4g-connectivity-to-bihar-with-2000-new-towers-2024-12-22-967431

Pioneer, D. (2025, September 7). Jharkhand shows how Digital Panchayats can work for rural India. The Pioneer. https://www.dailypioneer.com/2025/state-editions/jharkhand-shows-how-digital-panchayats-can-work-for-rural-india.html

Praveen, S. (2025, April 13). Kerala becomes first State to achieve total digital literacy. The Hindu. https://www.thehindu.com/news/national/kerala/kerala-becomes-first-state-to-achieve-total-digital-literacy/article69446530.ece

PricewaterhouseCoopers. (2023). India calling: Decoding the country's electronics manufacturing journey and the way forward. PwC. https://www.pwc.in/research-and-insights-hub/india-calling-decoding-the-countrys-electronics-manufacturing-journey-and-the-way-forward.html

PIB. (n.d.). Prime Minister launches project to connect all 45,945 village in Bihar with Optical Fibre Internet Service. https://www.pib.gov.in/PressReleasePage.aspx?PRID=1657343

Rao, G. S. (2025, September 4). A.P. Cabinet approves health policy for all families in State with 25 lakh coverage. The Hindu. https://www.thehindu.com/news/national/andhra-pradesh/ap-cabinet-approves-health-policy-for-all-families-in-state-with-25-lakh-coverage/article70012735.ece

ReadyForNext: Digital Solutions for MSMEs - VI Business. (n.d.). MYVI. https://www.myvi.in/business/enterprise-segments/smb/msme-readyfornext

Sheth, R. (2024, September 16). How Gujarat is Shaping India's Digital Future - Yotta. https://colocation.yotta.com/blog/emerging-trends-in-colocation-data-centers-how-gujarat-is-shaping-indias-digital-future/

Statista. (n.d.). Smartphones - India | Statista market forecast. https://www.statista.com/outlook/cmo/consumer-electronics/telephony/smartphones/india?srsltid=AfmBOopZLQhiLpVdURl4K7nPrVavifc8I6EEPTK2VjNXKXKnjblyUj8o

Sundev Renewables plans $500 million investment in MP Green Data Center – EQ. (2025, February 28). EQ International. https://www.eqmagpro.com/sundev-renewables-plans-500-million-investment-in-mp-green-data-center-eq/

Tandon, Archit. (2024, August 31). Vi upgrades network in Jharkhand and Bihar. Communications Today. https://www.communicationstoday.co.in/vi-upgrades-network-in-jharkhand-and-bihar/

The Hindu Bureau. (2025, August 26). Digital Kerala project launched for efficient governance, service delivery. The Hindu. https://www.thehindu.com/news/national/kerala/digital-kerala-project-launched-for-efficient-governance-service-delivery/article69980096.ece

The Hindu Bureau. (2025, October 8). T-Fiber serves as role model for other States: Union Minister Scindia at India Mobile Congress. The Hindu. https://www.thehindu.com/news/national/telangana/t-fiber-serves-as-role-model-for-other-states-union-minister-scindia-at-india-mobile-congress/article70139384.ece

The Indian Express. 2025, November 27. Chhattisgarh TechStart 2025: Building the future of innovation and investment Chhattisgarh's TechStart 2025 to be held on November 4 - A milestone for startups and investors alike. https://www.newindianexpress.com/business/press-releases/2025/Nov/04/chhattisgarh-techstart-2025-building-the-future-of-innovation-and-investment

The Indian Express. 2025, August 7. Cybercrimes hit rural and semi-urban India hard, with an over 400 per cent rise.

The World Bank, International Telecommunication Union, Ayers, S., Ballan, S., Gray, V., & McDonald, R. (2024). Measuring the Emissions & Energy Footprint of the ICT Sector. In A. Pederson, L. C. De Freitas, Orange Group, & C. Torgusson (Eds.), Measuring the Emissions & Energy Footprint of the ICT Sector: Implications for Climate Action. The World Bank and ITU. https://openknowledge.worldbank.org/server/api/core/bitstreams/5f88edaf-3015-4c74-bc57-f2bb296a24fa/content

TNN.(2025). 155 new services added to AP's 'universal health insurance scheme'. The Times of India. Available at: https://timesofindia.indiatimes.com/city/vijayawada/155-new-services-added-to-aps-universal-health-insurance-scheme/articleshow/123927884.cms

Verma, A. (2023, November 6). JAP-IT: Putting Jharkhand on path of good governance by expanding e-governance to all sections of society. ETGovernment.com. https://government.economictimes.indiatimes.com/news/digital-india/jap-it-putting-jharkhand-on-path-of-good-governance-by-expanding-e-governance-to-all-sections-of-society/105008661

Yuvaraj, N (2024). Andhra Pradesh Electronics Manufacturing Policy (4.0) 2024-29. In Information Technology, Electronics & Communications (Promotion Wing) DEPARTMENT. https://apiic.in/wp-content/uploads/2024/12/Andhra-Pradesh-Electronics-Manufacturing-policy-4.0-2024-29.pdf

Annexure 1

Digitalisation Rank and Score for Small States and Union Territories (UTs)

Rank					
States/UTs	CHIPS	Connect	Harness	Innovate	Protect
Chandigarh	1	1	1	1	2
Goa	2	2	3	-	8
A & N Islands*	3	6	2	-	3
Puducherry	4	4	5	2	1
Sikkim	5	3	8	-	9
Manipur	6	7	9	3	7
Mizoram	7	5	4	5	6
Tripura	8	9	6	4	4
Meghalaya	9	11	7	6	11
Arunachal Pradesh	10	10	10	7	10
Nagaland	11	8	11	8	5

Score					
States/UTs	CHIPS	Connect	Harness	Innovate	Protect
Chandigarh	68.4	78.1	52.3	73.4	75.7
Goa	54.5	64.0	43.9	-	61.3
A & N Islands*	52.7	55.5	47.0	-	70.7
Puducherry	51.6	57.5	37.4	55.0	80.9
Sikkim	48.9	62.0	34.2	-	58.9
Manipur	42.6	44.4	33.2	46.7	63.9
Mizoram	39.7	56.1	37.6	21.3	64.2
Tripura	37.5	37.8	36.3	33.0	68.8
Meghalaya	28.0	32.8	34.3	14.8	40.1
Arunachal Pradesh	26.8	35.3	29.7	12.4	44.3
Nagaland	26.6	40.4	24.8	7.9	67.4

* Andaman & Nicobar Islands

Annexure 2

List of Indicators, Sources and Weights

Subpillar	Group	#	Indicator	Weight	Source
CONNECT					
Access (Individual)	Internet	1	% of population using internet	0.13	Kantar
		2	% of population using internet	0.13	CMST
	Smartphone	3	% of population using smartphone	0.13	Kantar
		4	% of population using smartphone	0.13	CMST
	Optical fibre	5	% households with optical fibre	0.25	CMST
	Quality	6	4G mobile download speeds[1]	0.25	TRAI
Inclusion (Geography)	Internet	7	Urban-rural gap (% of population using internet)[2]	0.17	Kantar
		8	Urban-rural gap (% of population using internet)[2]	0.17	CMST
	Smartphone	9	Urban-rural gap (% of population using smartphone)[2]	0.17	Kantar
		10	Urban-rural gap (% of population using smartphones)[2]	0.17	CMST
	Optical fibre	11	Urban-rural gap (% households with optical fibre)[2]	0.33	CMST
Inclusion (Gender)	Internet	12	Male-female gap (% of population using the internet)[2]	0.25	Kantar
		13	Male-female gap (% of population using the internet)[2]	0.25	CMST
	Smartphone	14	Male-female gap (% of population using the smartphones)[2]	0.25	Kantar
		15	Male-female gap (% of population using the smartphones)[2]	0.25	CMST
Affordability		16	Price of cheapest smartphone (% of mean MPCE)	0.5	GDIP, HCES
		17	Revenue per internet user (% of mean MPCE)	0.5	TRAI

Subpillar	Group	#	Indicator	Weight	Source
Access (Government)	Hospitals	18	% primary healthcare centers with broadband connection	0.33	
	Schools	19	% of schools with a functional computer facility	0.11	UDISE+
		20	% of schools with an internet connection	0.11	UDISE+
		21	% of schools with a digital library	0.11	UDISE+
	GPs	22	Service-ready points per Gram Panchayat	0.33	MoPR
HARNESS					
Apps & Platforms	Social Media	23	% of internet users using social media	0.056	Kantar
		24	Male-female gap (% of internet users using social media)[2]	0.056	Kantar
		25	Urban-rural gap (% of internet users using social media)[2]	0.056	Kantar
	Online Shopping	26	% of connected households shopping online	0.083	CMST
		27	Urban-rural gap (% connected households shopping online)[2]	0.083	CMST
	OTT	28	% of internet users using OTT Video	0.056	Kantar
		29	Male-female gap (% of internet users using OTT Video)[2]	0.056	Kantar
		30	Urban-rural gap (% of internet users using OTT Video)[2]	0.056	Kantar
	Online Music	31	% of internet users using Online Music	0.056	Kantar
		32	Male-female gap (% of internet users using Online Music)[2]	0.056	Kantar
		33	Urban-rural gap (% of internet users using Online Music)[2]	0.056	Kantar
	Email	34	% of internet users using Email	0.056	Kantar
		35	Male-female gap (% of internet users using Email)[2]	0.056	Kantar
		36	Urban-rural gap (% of internet users using Email)[2]	0.056	Kantar
	Search	37	% of internet users Search	0.056	Kantar
		38	Male-female gap (% of internet users using Search)[2]	0.056	Kantar
		39	Urban-rural gap (% of internet users using Search)[2]	0.056	Kantar

Subpillar	Group	#	Indicator	Weight	Source
Business (MSMEs)		40	% of MSMEs selling products on mobile applications	0.2	Vodafone Idea
		41	% of MSMEs selling products on e-commerce platforms	0.2	Vodafone Idea
		42	% of MSMEs selling products on own website	0.2	Vodafone Idea
		43	% of MSMEs selling products on social media	0.2	Vodafone Idea
		44	% of MSMEs using digital tools for promotion	0.2	Vodafone Idea
Public Platforms	Procurement	45	% of SMEs registered on GeM	0.167	MoPR bulletin
		46	% of GPs procuring through GeM	0.167	MoPR bulletin
	e-gov	47	e-Transaction per 1000 Population	0.167	eTaal
		48	% of population that are UMANG users	0.167	UMANG
	Marketplace	49	e-Sanjeevani consultations as % of internet users (15+)	0.111	MoHFW
		50	% of APMC Mandis registered on e-NAM	0.111	e-Nam
		51	% of farmers registered on e-NAM	0.111	e-Nam
Public Services (DPI)	Identity	52	% of population with Aadhaar[3]	0.083	UIDAI
		53	DBT transactions per MNREGA worker	0.083	NREGA
	Payments	54	% of internet users using digital payments	0.017	Kantar
		55	Male-female gap (% internet users using digital payments)*	0.017	Kantar
		56	Urban-rural gap (% internet users using digital payments)*	0.017	Kantar
		57	% of internet users able to perform UPI transactions	0.017	CMST
		58	Male-female gap (% of internet users able to use UPI[2]	0.017	CMST
		59	Urban-rural gap (% of internet users able to use UPI)[2]	0.017	CMST
		60	UPI transactions per internet user	0.033	NPCI
		61	Share of last mile banks offering UPI	0.033	RBI
	Data Exchange	62	Digilocker users as a % of smartphone users	0.083	DigiLocker
		63	% of last mile banks live on AAs	0.083	Sahamati

Subpillar	Group	#	Indicator	Weight	Source
	Health	64	% of population with health IDs	0.056	ABDM
		65	Health records linked per ABHA IDs	0.056	ABDM
		66	Health facilities registered on ABDM per thousand persons	0.056	ABDM
	Education	67	Registered DIKSHA users per no. of teachers & students	0.083	DIKSHA
		68	% of Skill India Hub enrolled candidates with eKYC	0.083	NSDC
	Welfare & Employment	69	Share of disabled population with Unique Disability ID	0.083	UDID, NFHS-5
		70	% of e-shram target achieved	0.083	e-Shram
INNOVATE					
Investments, Startups & Business		71	Share of digital startups in total recognised startups	0.25	Startup India
		72	Tech Startup Investment as a share of NSDP	0.25	Tracxn
		73	Digital startups per digital incubator	0.25	Startup India
		74	% of MSMEs using IOT in business operations	0.25	Vodafone Idea
Knowledge Production		75	% of Secondary schools with Atal Tinkering labs	0.333	UDISE+
		76	Number of Top 100 Universities	0.333	NIRF India
		77	Share of total digital recognised startups that are patented	0.333	Startup India
PROTECT					
Risk of Attack		78	Cyber fraud incidents reported on NCRB per internet user	0.5	Rajya Sabha
		79	Amount per cyber fraud incident reported on NCRB	0.5	Rajya Sabha
Preparedness		80	% of cyber fraud amounts reported on NCRB refunded	0.25	Rajya Sabha
		81	% of persons able to complain about cybercrime[4]	0.25	CMST
		82	Male-female gap: % of able to complain about cybercrime[4]	0.25	CMST
		83	Urban-rural gap: % of able to complain about cybercrime[4]	0.25	CMST

Subpillar	Group	#	Indicator	Weight	Source
SUSTAIN					
		84	% of data center revenue from green data centers	0.25	Mordor
		85	% of electronics revenue from sustainable electronics[5]	0.25	Mordor
		86	% of total EMS revenue from green EMS	0.25	Mordor
		87	% of total EHS revenue from green EHS	0.25	Mordor

1 weighted average of operator-wise speeds (weighted by number of subscribers)
2 percentage point gap divided by overall percent
3 after adjusting for deaths
4 in the cybercrime reporting portal
5 smartphones & PCs.
Notes: MPCE = Monthly per capita Expenditure; EMS = Energy Management Software; EHS = Environment, Health, and Safety (EHS) software

Difference in weighting for Small States and UTs

Weights for the Small state and UTs differ as follows. No data for the MSME subpillar in Harness, so each subpillar is now given 1/3rd weight as opposed to 1/4th weight. Within the subpillar "Investments, Startups & Business", there is not data for the indicator "% of MSMEs using IOT in business operations". Further the latest data for the indicator "Tech Startup Investment as a share of NSDP" is not available and so data from the SIDE 2024 report is used for the indicator "Funds invested in startups divides by NSDP". It is given half the weight of the other two indicators so is 1/5th. Data for the Sustain pillar is missing for all Small states & UTs, and so the Protect pillar excluded. The CHIP score is calculated with the C,H, and I pillars weighted equally and the P pillar weighted 1/6th of the other three, as was done in the CHIPs analysis for large states.

Comparing Kantar with CMST data

We have relied on two data sources for various indicators in Connect and Harness: Kantar ICUBE 2024 Survey and Comprehensive Modular Survey: Telecom, 2025 that both provide data for states and union territories. The former is a survey compiled by a private data and research organisation, while the latter is a public survey conducted by the National Statistics Office of the Ministry of Statistics and Programme Implementation. Both sources are included since although they provide broadly similar inferences in many cases, there are certain aspects in which they differ.

For example, the CMST estimates are systematically higher than the Kantar data for both indicators in the Connect pillar (percent of population using smartphones and percent of population using the internet), more so for smartphones and for states where use is relatively lower. As per the CMST data, many states appear to have higher smartphone use than internet use, whereas it tends to be the opposite in the Kantar data. The overall placement of states and UTs, however, remain more or less similar for both datasets.

Estimates of divides, however, vary to a greater extent. While CMST data generally has higher estimates than the Kantar data for the gender gap in internet use, it is the opposite for smartphone use. Estimates of gender gap from the two datasets are not positively correlated, for both internet use and smartphone use. For geographical divides, both internet use and smartphone use is generally higher in the Kantar data compared to the CMST data. Again, the estimates from the two sources are not positively correlated.

Details of data sources

ABDM: ABDM Dashboard. https://dashboard.abdm.gov.in/abdm/

DIKSHA: https://diksha.gov.in/data/

Kantar (2024). ICUBE 2024 Survey. https://www.kantar.com/campaigns/india/syndicated-insights-reports.

CAMS: Comprehensive Annual Modular Survey, NSS 79th round: 2022-23. Government of India, Ministry of Statistics and Programme Implementation, & National Statistics Office.

CMST: Comprehensive Modular Survey: Telecom, 2025. (2025). Government of India, Ministry of Statistics and Programme Implementation, & National Statistics Office. NSS Report No. 593. https://www.mospi.gov.in/sites/default/files/publication_reports/CMST_report_m.pdf

e-NAM: National Agriculture Market (eNAM). (n.d.). e-NAM Overview. Ministry of Agriculture and Farmers' Welfare. https://www.enam.gov.in/web/

e-Shram: e-Shram. Ministry of Labour & Employment. District-wise Demographic Data of Unorganised Workers registered on eShram as on Previous Day. Data.gov. https://www.data.gov.in/resource/district-wise-demographic-data-unorganised-workers-registered-eshram-previous-day

eTaal: eTaal Dashboard. (n.d.). https://etaal.gov.in/etaal/Index.aspx

GDIP: GDIP. (2025, April 7). The price of the world in your pocket: a price only some can afford. Global Digital Inclusion Partnership. https://globaldigitalinclusion.org/2024/09/10/the-price-of-the-world-in-your-pocket-a-price-only-some-can-afford/

HCES: Household Consumption Expenditure Survey 2023-24.(2024). Ministry of Statistics & Programme Implementation (MoSPI). Government of India.

UIDAI: UIDAI. Accessed October 2025. Aadhaar Dashboard. https://uidai.gov.in/aadhaar_dashboard/india.php

MoHFW: eSanjeevani - National Telemedicine Service. (n.d.). Bridging the Digital Health Divide. Ministry of Health and Family Welfare. https://esanjeevani.mohfw.gov.in/#/

MoPR: Baghel, S. P. S., Government of India Ministry of Panchayati Raj, & National Informatics Center Services Inc. (NICSI). (2024). Lok Sabha unstarred Question No. 1236.

MoPR Bulletin: Ministry of Panchayati Raj. (2024). Monthly Status Report for different Parameters in e-Panchayat. In Monthly Bulletin.

NFHS-5: National Family Health Survey (NFHS) 2019-21. Ministry of Health and Family Welfare.

NIRF: National Institutional Ranking Framework, Department of Higher Education, & Ministry of Education. (2024). India Rankings 2024. In India Rankings 2024 [Report].

NPCI: NPCI. Ecosystem Statistics of UPI. https://www.npci.org.in/product/ecosystem-statistics/upi

NREGA: https://nrega.nic.in/MGNREGA_new/NregaState_report.aspx?typeN=4

NSDC: Digital (Online) Learning Analytics Dashboard https://shorturl.at/SjnXu

Rajya Sabha: Unstarred Questions. Question Number 1517, Session 267. Cyber Fraud and Awareness. Government of India. Ministry of Home Affairs.

RBI: Reserve Bank of India. Banks in India https://rbi.org.in/commonman/english/scripts/banksinindia.aspx

Sahamati. https://sahamati.org.in/

Startup India. https://www.startupindia.gov.in/digital-map/maps

Tracxn: Tracxn. Database. https://tracxn.com/

TRAI: TRAI MySpeed Portal. (n.d.). https://myspeed.trai.gov.in/index.php

UDID: Ministry of Social Justice and Empowerment. Dashboard: Anonymised data indicating State-wise, District-wise, Disability Type-wise, Age Group-wise and Gender-wise figures of Disability Certificate/UDID Card generated through UDID Portal. Government of India. https://swavlambancard.gov.in/dashboardchart

UDISE+: Key results- 2024-25. (2025). In UDISE+ [Report]. https://www.education.gov.in/sites/upload_files/mhrd/files/statistics-new/UDISE%2BReport%202024-25%20-%20NEP%20Structure.pdf

UMANG: UMANG Dashboard. https://web.umang.gov.in/landing/dashboard

Vodafone Idea: Vi Business MSME ReadyForNext. 2025. https://www.myvi.in/business/enterprise-segments/smb/msme-readyfornext-digital-assessment

Annexure 3

CHIPS Framework and Methodology

The CHIP framework was conceptualised in 2023 in order to help assess the state of digital economies and understand their transformation through varied approaches and trajectories. The framework was organized around four pillars – Connect, Harness, Innovate and Protect – that capture key aspects of digital transformation, enabling comparison across countries and over time. The second iteration in 2024 expanded the framework to include a fifth pillar – Sustain – and CHIP was transformed to CHIPS. The 2024 report also applied this framework at a subnational level, to the States and Union Territories within India. The third iteration is done in two parts. The State of India's Digital Economy 2025, which assessed digitalisation in 32 countries including India was released in February 2025, and this report, which assesses digitalisation at the subnational level, amongst the States and UTs of India.

The methodology remains broadly the same, details of which can be found in the State of India's Digital Economy 2025 report. Changes to the methodology are discussed here. Data for all States and UTs were collected and divided into two groups – Large states and UTs with population of 7 million or more, and Small States and UTs with population less than 7 million.

Calculations of the CHIPS score

A total of 87 indicators are grouped into 14 sub-pillars, which are then categorised under the 5 pillars of CHIPS. In order to enable comparability and aggregation into an index, each indicator is standardised to create an indicator score of 100 to the State/UT with the highest indicator value, and 0 to the one with the lowest indicator value. This standardisation is done separately for the two groups (Large States & UTs, and Small States & UTs), enabling comparison within group but not across the groups. The formula is as follows:

$$\text{Standardised Value} = \frac{(\text{Value} - \text{Min})}{(\text{Max} - \text{Min})} \times 100$$

For indicators where higher values indicate a less desirable outcome (e.g., cost, number of cyberattacks), the scale is inverted. In this case, the formula is as follows:

$$\text{Standardised Value} = \frac{(\text{Max} - \text{Value})}{(\text{Max} - \text{Min})} \times 100$$

Weighting

The index is calculated as a weighted average of the indicators. The weighting of indicators has been designed carefully to ensure commensurate representation of each of the key aspects covered. Within each sub-pillar, weights are assigned equally to group which captures aspects of importance, and weighted such that they add up to 1. All indicators measuring this aspect are allocated within these groups, and again weighted such that they add up to 1. This structure allows us to leverage more data wherever available, while ensuring that different aspects are given representation commensurate to their importance and relevance

within the digital economy. This year's subnational report has a particularly extensive set of indicators within the Harness pillar, that allows for a richer and more holistic representation. The incorporation of multiple sources for various important indicators within Connect and Harness, also helps address concerns of biases and reliability when using survey data.

In a few cases, the weighting at the indicator deviates from the above based on the following principles:

- The weight is halved when there are two sources of data for the same indicator (e.g. there is data on percent of population using the internet from the Kantar ICUBE 2024 survey as well as the NSS CMST 2024 survey.

- The weight is halved when data used is older. For example, the data on "Investment in tech startup as share of NSDP" for small states was available only for 2023 and is the same as what was used in the SIDE 2024 report.

In the case of a missing indicator, the weights are recalculated within the group based on these same principles. For example, within the Connect pillar, Access (Government) subpillar, Schools group, there are three indicators that are weighted equally (i.e., 1/3rd). If one of the three is missing, then the two indicators are given weights of 1/2 each, following the same principle of weighting them equally. The same steps are followed at the subpillar and pillar level.

If a particular group is missing more than half the indicators, or has only one indicator, then the group is dropped. Similarly, if the subpillar is missing more than half the groups, or has only one group, then the subpillar is dropped. And if the pillar is missing more than half the subpillars, or has only one subpillar, then the pillar is dropped.

For example, within the Connect pillar, Access (Government) subpillar, Schools group, if one of the three indicators is missing, the remaining two are reweighted. But if two of the three are missing then the entire Schools group is dropped. Similarly, Within the Harness pillar, Public Platforms subpillar, Procurement group, there are two indicators. If one of the two is missing, the Procurement group is dropped because it now has only one indicator, even though more than half the indicators are not missing.

Finally, all Pillars are weighted equally, except Protect and Sustain. Similar to the global SIDE 2025 report, the Protect and Sustain pillars have been given reduced weights (1/6th of the other pillars) since the data for these pillars cover a much narrower scope of what the breadth of the pillar should be, and are less reliable because due to forecasting and/or suffers from reporting biases. The Pillar weights are therefore as follows: 30%, 30%, 30%, 5%, and 5% for the C, H, I, P, and S pillars, respectively.

Please refer to Annexure 2 for the final weights for each indicator.

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