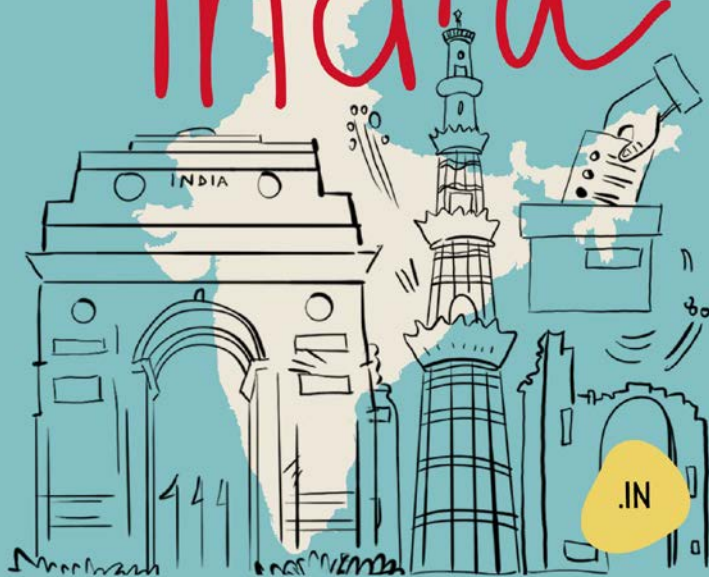




# india



**SURGE IN TECHNOLOGY AND INNOVATION,  
BLOCKAGES IN DEMOCRACY AND EQUALITY**

# SURGE IN TECHNOLOGY AND INNOVATION, BLOCKAGES IN DEMOCRACY AND EQUALITY

*A robust push towards a USD 1 trillion digital economy by 2025 has led to significant digital trends in India. With over 820 million active internet users, initiatives like the Funds for Startups and tax relaxations drive digital social impact ventures, notably in climate tech and tech for development sectors. However, challenges like misinformation, internet shutdowns, and content takedowns undermine democratic principles. While digital tools empower various sectors like media, e-commerce, and finance, challenges such as the digital divide, affordability, and digital literacy persist. To address these, India must invest in expanding digital infrastructure and implementing comprehensive digital literacy programs.*

Ambika Khurana

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## **H**ow would you define or describe the digital trends in your country, especially regarding digital social impact ventures?

India aims to foster a USD 1 trillion digital economy by 2025, and there has been a sustained push by the Central and State governments in this direction. The government has focused on expanding internet access through better connectivity infrastructure and promoting usage through large-scale digitalisation of service delivery.

There are more than 820 million<sup>1</sup> active internet users in India, and the number of digital transactions has increased 100 times<sup>2</sup> over the last decade. The government is also focused on creating an enabling environment for start-up-led innovation. India is the third largest startup ecosystem globally, with over 1.15 lakh startups (including 68,000 tech startups) and 111 unicorns. Further, FDI (Foreign Direct Investment) reforms have resulted in inflows increasing from USD 36 billion in 2013-14 to USD 71 billion in 2022-23.

The digital social impact investment in India is bolstered by multiple factors, including initiatives like the Funds for Startups, fiscal incentives like tax relaxations, and infrastructural support through incubators and innovation labs.<sup>3</sup> Climate tech is the fastest growing sector, with the highest number of deals (23 per cent of all impact investment deals) across all social sectors reviewed (such as agriculture, health tech, financial inclusion,

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1. Madhukalya, A. (2024). 86% use internet to enjoy OTT services in India: IAMAI-Kantar report. Business Today; Business Today. <https://www.businesstoday.in/technology/internet/story/86-use-internet-to-enjoy-ott-services-in-india-iamai-kantar-report-419134-2024-02-27>

2 Digital Revolution: Transforming India's Economy through Digital Transactions. (2023). Pib.gov.in. <https://pib.gov.in/PressReleasePage.aspx?PRID=1926103>

3 Meryl. (2019). Social impact startups are on the rise in India - IndBiz | Economic Diplomacy Division. IndBiz | Economic Diplomacy Division. <https://indbiz.gov.in/social-impact-startups-are-on-the-rise-in-india/>

and education) by a report in 2021.<sup>4</sup> Between 2020 and 2022, the sector raised approximately USD 2 billion through 279 deals.<sup>5</sup> Within climate tech, sustainable mobility constitutes the largest portion of investments by deal value and number of investments.<sup>6</sup>

Another growing area is tech for development, which includes enterprises that *inter alia* use technology-based solutions to assist gig workers in finding opportunities, provide access to content in vernaculars, assist SMEs in improving operational efficiency, etc.<sup>7</sup> This sector has grown three-fold between 2020 and 2022 in deal value. The largest component of deals undertaken in this sector was in the local language/vernacular content area.<sup>8</sup> Other technological sectors in which significant social impact investments were made recently include health tech<sup>9</sup>, agri-tech<sup>10</sup>, and ed-tech. However, investment trends

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4 Deepanshi Balooni, Pai, R., & Batra, V. (2022, June 14). How did India's impact investment market fare in 2021? | IDR. India Development Review; India Development Review. <https://idronline.org/article/social-business/how-did-indias-impact-investment-market-fare-in-2021/>

5 India Impact Investment Trend. (2021). 2021: in Retrospect. [https://iiic.in/wp-content/uploads/IIC\\_2021\\_in\\_retrospect.pdf](https://iiic.in/wp-content/uploads/IIC_2021_in_retrospect.pdf)

6 Impact Investors Council. (2022). Climate Tech Investment Trends in India: A 2022 Retrospective. p. 22. [https://indiagreeninvestment.com/assets/publication/IIC\\_Climate%20Tech%20Report\\_V10\\_Single%20\(2\).pdf](https://indiagreeninvestment.com/assets/publication/IIC_Climate%20Tech%20Report_V10_Single%20(2).pdf)

7 Impact Investors Council. (2022). Climate Tech Investment Trends in India: A 2022 Retrospective. p. 54. [https://indiagreeninvestment.com/assets/publication/IIC\\_Climate%20Tech%20Report\\_V10\\_Single%20\(2\).pdf](https://indiagreeninvestment.com/assets/publication/IIC_Climate%20Tech%20Report_V10_Single%20(2).pdf)

8 Impact Investors Council. (2022). Climate Tech Investment Trends in India: A 2022 Retrospective. p. 45. [https://indiagreeninvestment.com/assets/publication/IIC\\_Climate%20Tech%20Report\\_V10\\_Single%20\(2\).pdf](https://indiagreeninvestment.com/assets/publication/IIC_Climate%20Tech%20Report_V10_Single%20(2).pdf)

9 Deepanshi Balooni, Pai, R., & Batra, V. (2022, June 14). How did India's impact investment market fare in 2021? | IDR. India Development Review; India Development Review. <https://idronline.org/article/social-business/how-did-indias-impact-investment-market-fare-in-2021/>

10 Meryl. (2019). Social impact startups are on the rise in India - IndBiz | Economic Diplomacy Division. IndBiz | Economic Diplomacy Division. <https://indbiz.gov.in/>

across most sectors apart from climate tech and tech for development declined in 2022.<sup>11</sup>

### ***How would you describe recent digital shifts in your country?***

Over the last decade, India programmatically pursued the digitalisation of its economy. Digital India – the government’s flagship digitalisation program is focused on improving connectivity, promoting the adoption of digital services, and creating an enabling environment for innovation. India is one of the fastest-growing telecom ecosystems in the world, with more than 1.181 billion subscribers.<sup>12</sup> Between September 2022 and August 2023, the median download speed in India went from 13.87 Mbps to 50.21 Mbps – and India’s position improved by 71 places on the Speedtest Global Index.

India successfully leveraged Aadhaar (unique digital identity) and mobile connectivity to bring a significant proportion of the Indian population into the formal banking system. This, in turn, has led to increased access to credit, operational efficiency, higher consumption and investment, and broad-based economic growth.<sup>13</sup> Digitisation has also led to growth in the Indian e-commerce market, projected to have an annual growth rate of 16 per cent between 2022 and 2026.<sup>14</sup> The adoption of digital solutions such as e-commerce and e-procurement by

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social-impact-startups-are-on-the-rise-in-india/

11 Impact Investors Council. (2022). Climate Tech Investment Trends in India: A 2022 Retrospective. p. 54. [https://indiagreeninvestment.com/assets/publication/IIC\\_Climate%20Tech%20Report\\_V10\\_Single%20\(2\).pdf](https://indiagreeninvestment.com/assets/publication/IIC_Climate%20Tech%20Report_V10_Single%20(2).pdf)

12 TRAI. (2023). The Indian Telecom Services Performance Indicators: July-Septmebr, 2023. Delhi. [https://www.trai.gov.in/sites/default/files/QPIR\\_09022024\\_0.pdf](https://www.trai.gov.in/sites/default/files/QPIR_09022024_0.pdf)

13 Ministry of Finance, Government of India. (2023). Economic Survey 2022-23. p. 30. <https://www.indiabudget.gov.in/economicsurvey/doc/echapter.pdf>

14 Google. (2023). e-Conomy: India 2023. p. 14. [https://services.google.com/fh/files/blogs/india\\_economy\\_report\\_2023.pdf](https://services.google.com/fh/files/blogs/india_economy_report_2023.pdf)

businesses (including MSMEs) has seen a sharp rise, removing geographical barriers and increasing customer base.

These developments have given a fillip to India's digital economy. Between 2014 and 2019, India's core digital economy grew 2.4 times faster than the overall economy. India's internet economy is projected to reach USD 1 trillion by 2030 – compared to its USD 8-10 billion value in 2010 and USD 155-175 billion value in 2022.<sup>15</sup> It comprised 15 per cent of the overall technology sector (0.5 per cent of the GDP) in 2010, 48 per cent of the technology sector (4-5 per cent of the GDP) in 2022 and is estimated to constitute 62% of the technology sector (12-13 per cent of the GDP) by 2030.<sup>16</sup>

***Describe and provide insight into your country being democratic or the internet breaking democracy in your body politic.***

The proliferation in internet access and smartphone usage has democratised content creation and consumption of social media. Social media and user-generated content platforms like YouTube have become the preferred forum for democratic discourse and expression of creative freedom.

However, India also faces an unprecedented information crisis, with citizens being exposed to misinformation and politically divisive propaganda daily. The increase in misinformation on the internet around elections is well documented.<sup>17</sup> The use of misinformation to manipulate electoral outcomes is a global issue. Indian policymakers and thought leaders have expressed concerns about it, and measures like fact-checking

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15 Google. (2023). e-Conomy: India 2023. p. 12. [https://services.google.com/fh/files/blogs/india\\_economy\\_report\\_2023.pdf](https://services.google.com/fh/files/blogs/india_economy_report_2023.pdf)

16 Google. (2023). e-Conomy: India 2023. p. 12. [https://services.google.com/fh/files/blogs/india\\_economy\\_report\\_2023.pdf](https://services.google.com/fh/files/blogs/india_economy_report_2023.pdf)

17 Bansal, S. (2019, April). The Atlantic. The Atlantic; theatlantic. <https://www.theatlantic.com/international/archive/2019/04/india-misinformation-election-fake-news/58612/>

and accelerated takedown timelines are in place. However, the advent of deepfakes has thrown a new challenge.

Internet shutdowns are another issue undermining freedom of speech in the digital age. India resorts to blocking access to the internet more often than any other democracy.<sup>18</sup> Although such shutdowns are often justified on grounds of maintenance of public order<sup>19</sup>, they prevent vital information access and are overbroad and disproportionate measures.<sup>20</sup> Moreover, at a time when service delivery is becoming increasingly digital, internet shutdowns impede the ability of citizens to access essential services.

The Indian State also orders a large number of content takedowns from social media and other platforms. For instance, between 2013 and 2023, India sent nearly 20,000 takedown requests to Google – the third highest in the world.<sup>21</sup> The government of India has also been accused of attempting to curb the voices of journalists and civil society members who are critical of its policies. In July 2022, X (formerly Twitter) filed a lawsuit against the government of India for ordering it to block more than 1,400 accounts, including those of journalists and activists during the farmer protests.

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18 Keep it On. (2023). Weapons of Control, Shields of Impunity: Internet Shutdowns in 2022. <https://www.accessnow.org/wp-content/uploads/2023/05/2022-KIO-Report-final.pdf>

19 Soumyarendra Barik. (2021, January 27). Farmer protests: Internet, SMS services shutdown in parts of Haryana to curb misinformation. MediaNama. <https://www.medianama.com/2021/01/223-internet-shutdown-haryana-farmer-protests/>

20 Internet Freedom Foundation. (2023). “No internet means no work, no pay, no food”: Internet Shutdowns deny access to basic rights in “Digital India”. [https://www.hrw.org/sites/default/files/media\\_2023/06/india0623web\\_1.pdf](https://www.hrw.org/sites/default/files/media_2023/06/india0623web_1.pdf)

21 Bakhsh, Z. (2023, December 8). India 3rd among countries sending Google most content removal requests — 20,000 over last 10 years. ThePrint; theprint. <https://theprint.in/india/india-3rd-among-countries-sending-google-most-content-removal-requests-20000-over-last-10-years/1877241/>

***Digital Tools are considered to be empowering. Can you describe which sector in your country has been most helped by digital?***

Key sectors which benefitted the most from digital technologies include –

*Media and entertainment:* The growth in the overall media and entertainment (M&E) industry is largely driven by new media, including digital media, digital advertising, animation and VFX, and mobile gaming. The contribution of new media (digital and online gaming) to the overall M&E industry increased from 20 per cent in 2019 to 38 per cent in 2023.<sup>22</sup> The industry's growth story continues to take shape, with the Minister for Information and Broadcasting, Anurag Singh Thakur, stating last year that India is set to become the third-largest M&E industry in the world by 2028. He has also recently shed light on the fact that more than half of the 2,500 films made worldwide are made on Indian soil.<sup>23</sup>

*E-commerce:* The government's push for the digital economy, increased internet and smartphone adoption, and digital payments have accelerated the growth of e-commerce, including in rural India.<sup>24</sup> Close to 100 per cent of Indian pin codes now

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22 India, E. (2023, September 27). EY engages young talent to develop AI solutions to solve real-world problems. Ey.com. [https://www.ey.com/en\\_in/news/2024/03/indian-m-e-sector-crossed-inr-2-point-3-trillion-in-2023-expected-to-reach-inr-3-point-1-trillion-by-2026-reveals-the-ficci-ey-report#:~:text=New%20media%2C%20comprising%20digital%20and,2019%20to%2038%25%20in%202023](https://www.ey.com/en_in/news/2024/03/indian-m-e-sector-crossed-inr-2-point-3-trillion-in-2023-expected-to-reach-inr-3-point-1-trillion-by-2026-reveals-the-ficci-ey-report#:~:text=New%20media%2C%20comprising%20digital%20and,2019%20to%2038%25%20in%202023)

23 ANI. (2024, February 26). Anurag Singh Thakur announces setting up of Film Certification Facilitation Office in Chandigarh. The Times of India. <https://timesofindia.indiatimes.com/entertainment/hindi/bollywood/news/anurag-singh-thakur-announces-setting-up-of-film-certification-facilitation-office-in-chandigarh/articleshow/108001262.cms>

24 Ministry of Finance, Government of India. (2023). Economic Survey 2022-23. p. 305-306. <https://www.indiabudget.gov.in/economicsurvey/doc/echapter.pdf>

have e-commerce adoption.<sup>25</sup> The government's push for digital identities and formalisation has also contributed to the growth of MSMEs through access to formal credit.<sup>26</sup> By leveraging digital solutions, nearly 10 per cent of Indian MSMEs currently use digital means to sell and buy products domestically. Sectoral comparisons by size demonstrate that B2C e-commerce has the largest sectoral size as of 2022, followed by online travel, SaaS, online media and online food delivery.<sup>27</sup> India is also innovating in the e-commerce space through the Open Network for Digital Commerce (ONDC). ONDC is an open-source platform aimed at disintermediating e-commerce to increase e-commerce penetration in the country by enabling population-scale inclusion of all types and sizes of sellers.

*Financial Sector:* India leverages Aadhaar (digital identity) and mobile connectivity to bring a significant proportion of its population into the formal banking system. In 2008, only 27 per cent of India's adult population had a bank account. By 2021, the proportion stood at 78 per cent, and the gender gap in account ownership was almost eliminated. Similarly, the Unified Payments Interface - a fast retail payments system that enables users to link multiple bank accounts to a single mobile application, has democratised digital payments. Within seven years since its launch, it clocked 100 billion transactions in 2023.

***What are the biggest challenges/Challenges in your country in terms of digital transformation?***

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25 Invest India. (2019). Investindia.gov.in. [https://www.investindia.gov.in/sector/retail-e-commerce/e-commerce#:~:text=The%20Indian%20e%2Dcommerce%20industry,Jul%202023%20\(since%20inception\)](https://www.investindia.gov.in/sector/retail-e-commerce/e-commerce#:~:text=The%20Indian%20e%2Dcommerce%20industry,Jul%202023%20(since%20inception))

26 Ministry of Finance, Government of India. (2023). Economic Survey 2022-23. p. 31. <https://www.indiabudget.gov.in/economicsurvey/doc/echapter.pdf>

27 Google. (2023). e-Conomy: India 2023. p. 14. [https://services.google.com/fh/files/blogs/india\\_economy\\_report\\_2023.pdf](https://services.google.com/fh/files/blogs/india_economy_report_2023.pdf)

*Digital Divide:* India faces gaps in mobile use and internet connectivity due to a gender divide as well as an urban-rural divide. The National Family Health Survey (2019-21) reported that only 33 per cent of Indian women have ever used the internet compared to 57 per cent of men.<sup>28</sup> Similarly, a 2023 report by GSMA concluded that Indian women are 11 per cent less likely to own a mobile phone and 40 per cent less likely to use mobile internet than men.<sup>29</sup> As compared to global trends, India's gender gap for internet connectivity is 10 per cent compared to the global average of 9 per cent. The urban-rural divide in India is 58 per cent compared to a global average of 49 per cent.<sup>30</sup>

*Affordability:* India is a mobile-first market, with over 96 per cent of internet subscribers being wireless customers. While average prices of smartphones have come down, it remains relatively unaffordable for a significant proportion of the population. For instance, the cheapest smartphone available in India<sup>31</sup> costs more than a month's income for the bottom half of India's population.

*Digital Literacy:* Basic digital skills are lacking among Indians. Among Indians aged 15-29, (a) only 26.7 per cent can send emails with attached files; (b) 20.9 per cent can download and

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28 Ministry of Health & Family Welfare. Government of India. (2021). National Family Health Survey (NFHS-5) 2019-21. p. 3. [https://main.mohfw.gov.in/sites/default/files/NFHS-5\\_Phase-II\\_0.pdf](https://main.mohfw.gov.in/sites/default/files/NFHS-5_Phase-II_0.pdf)

29 GSMA. (2023). The Mobile Gender Gap Report:2023. p. 17. [https://www.gsma.com/r/wp-content/uploads/2023/07/The-Mobile-Gender-Gap-Report-2023.pdf?utm\\_source=website&utm\\_medium=download-button&utm\\_campaign=gender-gap-2023](https://www.gsma.com/r/wp-content/uploads/2023/07/The-Mobile-Gender-Gap-Report-2023.pdf?utm_source=website&utm_medium=download-button&utm_campaign=gender-gap-2023)

30 Centre for Internet and Digital Economy. (2024). State of India's Digital Economy Report, 2024. p. 29. [https://icrier.org/pdf/State\\_of\\_India\\_Digital\\_Economy\\_Report\\_2024.pdf](https://icrier.org/pdf/State_of_India_Digital_Economy_Report_2024.pdf)

31 A study by A4AI concluded the cheapest smartphone available in India to be priced at INR 4,999. Available here: <https://docs.google.com/spreadsheets/d/1ArxeZ2r2Kwh9eEDf6qsDbbZV1iVSnF2lg3xNFRCLife/edit#gid=244944529>

install software; and (c) 10 per cent can use basic arithmetic formulae in a spreadsheet.<sup>52</sup>

*Internet Shutdowns* – India has more internet shutdowns than any other country in the world. This not only hinders access to information and connectivity but also access to essential public services and welfare schemes – and disproportionately impacts the marginalised.

***Does your country consume digital content more than it produces, or vice versa?***

With the advent of video and audio streaming platforms, the volume of content generated each year is increasing. There seems to be a commensurate increase in digital content consumption, with new media driving growth in the overall media and entertainment market. Content consumption is dominated by small screens, and people spend most of their time on social media (including YouTube). Available data around content production and consumption is captured below –

*Production patterns*

- India produced 200,000 hours of content in 2023 (excluding user-generated content). 96 per cent of this was generated by television (excluding news), while feature films and OTT content contributed 2 per cent each.
- 1,796 films were released in theatres during 2023, 11 per cent higher than in 2022.
- 3,000 hours of fresh, original content was produced for streaming platforms, of which 52 per cent was in regional languages, up from 47% in 2021.

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52 Government of India. (2023). Multiple Indicator Survey of India (2020-2021). p. 35. [https://mospi.gov.in/sites/default/files/publication\\_reports/MultipleIndicatorSurveyinIndiaf.pdf](https://mospi.gov.in/sites/default/files/publication_reports/MultipleIndicatorSurveyinIndiaf.pdf)

- User-generated content production is on the rise, with more than 2,00,000 full-time content creators being able to monetise their content.

### *Consumption patterns*

- In 2023, Indians spent 4.8 hours on their phones every day – against the average of more than five hours across mobile-first markets. However, only 28 per cent of this time was spent on entertainment content.
- In the 15 months from January 2022 to March 2023, Indians spent a total of 6.1 trillion minutes (about 12,000,000 years) watching online videos. 88 per cent of this time was spent on YouTube.<sup>33</sup>

### ***Can you make recommendations on how your country should make digital policies an equaliser?***

To make digital policies an equaliser in India, a multi-faceted approach is necessary.

Firstly, addressing inequity in access to infrastructure, such as reliable internet connectivity, is crucial. India needs to invest in expanding its digital infrastructure, particularly in rural and underserved areas. This includes building more telecom towers, laying fibre-optic cables, and improving last-mile connectivity.

The Indian government has made great inroads in regard to the BharatNet project. Since the project's inception in 2011, it has ensured last-mile digital connectivity in 210,722 Gram Panchayats, with a government investing Rs 39,825 crore towards it.<sup>34</sup> By ensuring reliable internet access across the

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<sup>33</sup> Vahishta Unwalla. (2023, June). Indians spent 6.1 trillion minutes consuming online video and most of it is on YouTube. CNBCTV18. <https://www.cnbctv18.com/entertainment/indians-spent-61-trillion-minutes-consuming-online-video-and-most-of-it-is-on-youtube-16815851.htm>

<sup>34</sup> Ministry of Telecommunications. Bharatnet Project. Available here: <https://>

country, even in remote regions, more people can benefit from digital services and opportunities and contribute to India's growing digital economy.

Second, implementing comprehensive digital literacy programs is essential to ensure that its citizens can effectively and safely use digital tools and navigate the online world. These programs can be integrated into school curricula, offered through community centres, and conducted through mass media campaigns.

The Indian government has made some attempts to address such gaps via the National Digital Literacy Mission and the Digital Saksharta Abhiyaan. However, more needs to be done, as can be evidenced by various reports reflecting on the rising digital divide in India during and after the pandemic, as well as increasing incidents of digital fraud and a secular rise in cybersecurity incidents.<sup>35</sup>

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[usof.gov.in/en/bharatnet-project](https://usof.gov.in/en/bharatnet-project)

35 Oxfam India Inequality Report 2022: Digital Divide: <https://www.oxfamindia.org/knowledgehub/workingpaper/india-inequality-report-2022-digital-divide>. See also: Government of India, Ministry of Statistics & Programme Implementation, National Statistics Office, Key Indicators of Household Social Consumption on Education in India, NSS 75th Round (JULY 2017 – JUNE 2018) [https://mospi.gov.in/sites/default/files/publication\\_reports/Report\\_585\\_75th\\_round\\_Education\\_final\\_1507\\_0.pdf](https://mospi.gov.in/sites/default/files/publication_reports/Report_585_75th_round_Education_final_1507_0.pdf)

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*She would like to extend her thanks to Koan Advisory for their contribution in collating the responses for this chapter.*