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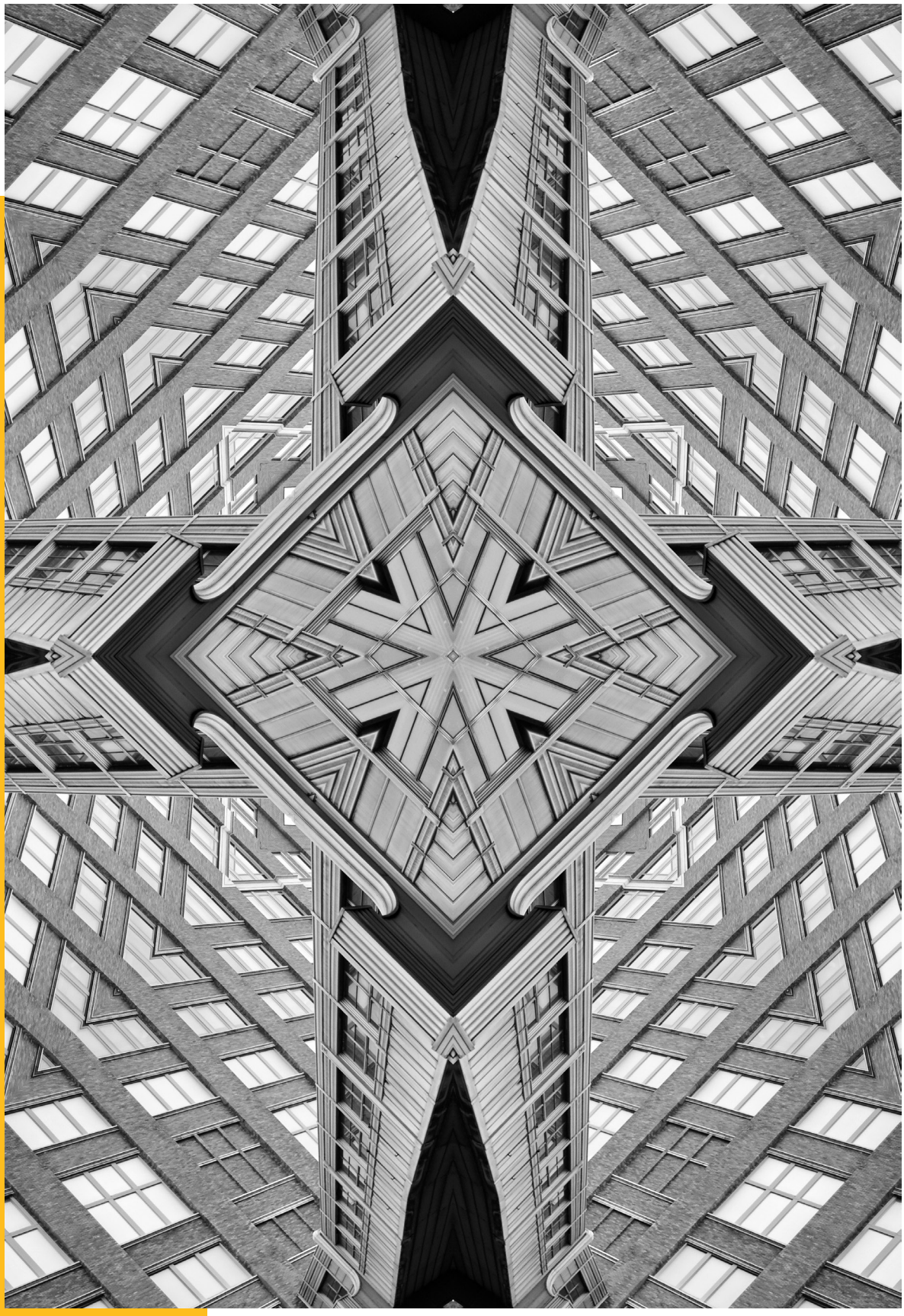

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The G20 Digital Economy Agenda for India

Shruti Jain

Abstract

The role of digitalisation in the global economy has become increasingly crucial as the dependency on digital technologies has surged amid the COVID-19 pandemic. Establishing a digital economy involves utilising digitisation as the key factor of production in a broad range of economic activities. The G20 has recognised the importance of maximising benefits and minimising challenges from the development of the digital economy. Over the years, it has sought to address several challenges resulting from the rapid digitalisation of the economy. These include measuring the digital economy, e-commerce cooperation, consumer protection, and the digital divide. The G20 leaders have also reaffirmed the need for policies that create an enabling, open, inclusive, fair, and non-discriminatory digital economy.[1] This paper explores the evolution of the digital economy agenda under the G20's Sherpa Track from 2016 to 2022. Further, it traces India's digital economy agenda at the G20 and provides recommendations to expand its scope in the global context.

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Introduction

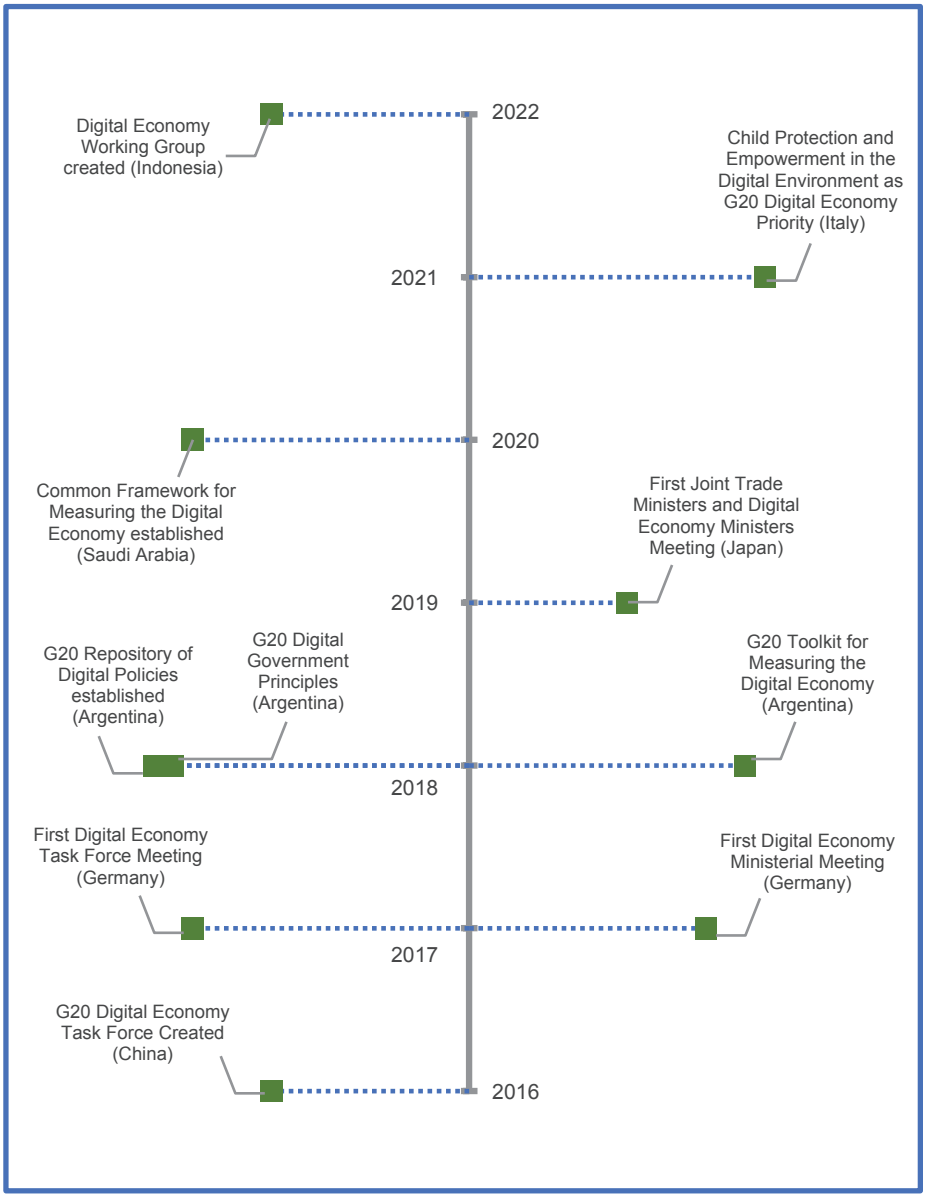
In 2015, Türkiye initiated the B20 Conference on Digital Economy[a] alongside the G20 Trade Ministers' meeting.[2] This was the first initiative where issues such as e-commerce, challenges faced by small and medium enterprises, skills, cross-border data flow, data privacy, net neutrality, and tax regimes were brought to the forefront of the overall G20 agenda. Consequently, the G20 leaders first engaged in a comprehensive discourse on the digital economy—defined by the grouping as a range of economic activities that include using modern information networks as an important activity space and information and communication technologies (ICTs) as key drivers of production and economic structural optimisation—and established the Digital Economy Task Force (DETF) at the Hangzhou Summit in 2016.[3] The goal of the DETF was to address challenges that emerged from the use of ICTs and propose a common understanding, principles and crucial areas of development for the digital economy.

In 2017, the German presidency held the first Digital Economy Ministerial Meeting, focusing on harnessing the potential for inclusive growth and employment, digitising production for growth, and strengthening trust in the digital world. Consequently, the G20 has pursued the digital economy agenda by establishing various initiatives and workshops, such as the G20 Digital Economy Multistakeholder Conference, G20 Toolkit for Measuring Digital Economy, G20 Digital Government Principles, G20 Repository of Digital Policies, and the Common Framework for Measuring Digital Economy.

In 2020, the COVID-19 pandemic provided an unprecedented boost to the digital economy. Under the Italian presidency in 2021, the G20 countries acknowledged the crucial role the digital economy can play in enhancing the economic recovery from the pandemic.[4] The G20 leaders further highlighted that digitisation is crucial to boost job opportunities and increase market access for micro, small and medium enterprises (MSMEs).[5]

a Business20, or B20, is a G20 Engagement Group that represents the business voice of the grouping.

Figure 1:
G20 Digital Economy Milestones (2016-2022)



Introduction

Recognising the increasing global role of the digital economy, the Indonesian presidency in 2022 upgraded the DETF to a Digital Economy Working Group (DEWG)[6] to streamline the digital issues of other working groups under the G20 and generate a stronger commitment to discussing digital issues.[7]

The pandemic has heightened the need to accelerate a collective response and implement policies that can help reap the digital economy's full potential. The G20 is currently and will be chaired by three developing nations (Indonesia in 2022, India in 2023, and Brazil in 2024). As part of the G20 Troika,[b] India has an opportunity to play an influential role in developing the long-term agenda for the digital economy. This paper seeks to understand priority areas for the digital economy at the G20, especially for India, under the Sherpa Track. It further recommends ways to build the G20 digital economy agenda under India's presidency in 2023.

b Consisting of the current, previous, and the incoming presidencies.

The G20 Digital Economy Agenda

The G20's digital economy agenda has evolved since the initiation of the DETF in 2016 and the first Digital Economy Ministerial Meeting in 2017. The G20 digital economy agenda can broadly be categorised as legacy issues and new priorities.

Aspects such as the measurement of the digital economy, cooperation on e-commerce, promotion of investment in digital infrastructure, promotion of digital skills and training, bridging the digital divide, ensuring consumer protection and security, enforcement of intellectual property rights (IPR), boosting MSMEs and entrepreneurs in the digital era, and accruing benefits from digitalisation and new technologies have consistently been adopted by the G20 and can be considered as legacy priorities. On the other hand, certain issues, such as improving trust and safety for children and smart cities, have been adopted intermittently based on country-specific priorities. At the same time, issues such as artificial intelligence (AI) adoption by MSMEs, data free flow with trust, and innovative and agile governance have only gained prominence more recently (see Table 1).

- **Measuring the digital economy**

As GDP share of digitalisation increases across countries, it is important to measure the growth of the digital economy by diagnosing, assessing, and monitoring the progress of policies. Indeed, measuring the digital economy has been a priority for the G20 since the initiation of the DETF in 2016. Under China's presidency, the G20 leaders called on international bodies—such as International Monetary Fund, Organisation for Economic Co-operation and Development (OECD), United Nations Conference on Trade and Development, and the World Trade Organization—to further the digital economy measurement agenda to provide tools to improve the understanding of the digital economy's contribution to the global economy.[8] The G20 leaders have since recognised the potential of new data, measurement tools, and indicators in transforming production and jobs. This goal first materialised under the Argentine presidency (2018) with the

Table 1: G20 Digital Economy Priorities (2016-2021)

Priority Areas	2016	2017	2018	2019	2020	2021
	China	Germany	Argentina	Japan	Saudi Arabia	Italy
Measuring the digital economy	●	●	●	●	●	●
Encouraging e-commerce cooperation	●	●	●	●	●	
Promoting investment in ICT sector	●	●	●	●		●
Enforcing IPR to develop digital economy	●	●	●	●		●
Promoting digital skills and training	●	●	●	●	●	●
Consumer protection	●	●	●	●	●	●
Boosting MSMEs and entrepreneurs in the digital era	●	●	●	●	●	●
Improving trust and safety for children			●			●
Benefiting from digitalisation and emerging technologies, such as 5G, Internet of Things, artificial intelligence and distributed ledger technologies		●	●	●	●	●
Accelerating digital infrastructure for development	●	●	●	●	●	●
Smart cities		●		●	●	●
Bridging digital divide	●	●	●	●	●	●
Encouraging adoption of artificial intelligence by MSMEs				●	●	●
Innovative or agile governance			●	●	●	●
Data free flow				●	●	●
Enhancing security	●		●	●	●	●

Note: The list is not exhaustive

Source: Author's own

The G20 Digital Economy Agenda

'G20 Toolkit for Measuring the Digital Economy' led by the OECD, and then by the Saudi Arabian presidency (2019) with the 'Roadmap Towards a Common Framework for Measuring the Digital Economy' (which defined the digital economy as "All economic activity reliant on, or significantly enhanced by the use of digital inputs, including digital technologies, digital infrastructure, digital services and data. It refers to all producers and consumers, including government, that are utilising these digital inputs in their economic activities"[9]). While the toolkit laid the foundation for the discussion, the roadmap proposes to create a common definition of the digital economy; create a core set of indicators with wider adoption and contribute towards monitoring the Sustainable Development Goals; and identify key steps for implementing the proposed indicators by the G20 members.[10]

With the increasing intangibility of value drivers and shifting business models, measuring the scope of the digital economy has become more challenging. A key challenge in measuring the digital economy is the lack of accuracy in assessing the value of free digital goods and services. Currently, the value of the digital economy is measured based on what individuals pay for goods and services.[11] However, while the definition of productivity and well-being has evolved, the statistics in national accounting systems have not changed at the same pace. This could lead to an inaccurate representation of the relationship between GDP and the consumer welfare derived from digital goods. For instance, digital goods such as emails and messaging services may have zero marginal costs but have high consumer value.[12] While the Saudi Arabia-led roadmap suggests that the cost of creating such platforms could capture such a value, several other factors could affect the measurement. These include the exclusion of digital intermediate goods, which do not contribute to the GDP; inability to include consumer surplus of digital goods; difficulty in tracing international monetary transactions; and difficulty in comparing different national accounts. The roadmap provides an alternative in the form of digital supply and use tables, which help create satellite national accounts outside of GDP to measure the digital economy. However, only a few

countries have adopted this initiative as many others have expressed an inability to produce the estimates in the table.[13] As such, identifying appropriate tools to measure the digital economy is a key concern.

- **Encouraging e-commerce cooperation**

In 2016, the G20 leaders committed to promoting cross-border trade facilitation for e-commerce through digital means, such as electronic transaction documents, mutual recognition of digital authentication, and digital payments. Moreover, the emphasis was on ensuring the efficient payment of appropriate taxes for international e-commerce through the base erosion and profit shifting (BEPS) issues.[14] In October 2021, the G20 members and OECD agreed on a joint Inclusive Framework on BEPS, considered a landmark deal for the digital age.[15] Pillar One of the deal aims to reallocate the market jurisdictions for taxing rights based on the physical presence of multinationals. Similarly, Pillar Two aims to set the global minimum tax rate of 15 percent.

While India's finance minister said that the G20 members' endorsement of the proposed new global tax framework would help deal with the challenges arising from the digitisation of the economy, there was no indication of an agreement to withdraw the Equalisation Levy—the tax on digital services.[16] In its statement on the Progress Report on Amount A of Pillar One, the G-24[c] member countries (including India) expressed their concern over the Report's proposal to "not enact any future Digital Services Taxes or similar measures".[17] The comments by G-24 members noted that such a commitment could effectively constrain the future law-making powers of sovereign jurisdictions. Additionally, the gains accrued for developing countries from the OECD's two-pillar proposal, compared to the Equalisation Levy, were challenged. The relative gain from implementing Pillar

c The G-24, officially the Intergovernmental Group of Twenty-Four on International Monetary Affairs and Development or The Group of 24, aims to coordinate the positions of developing countries on international monetary and development finance issues, and ensure their interests are adequately represented in negotiations on international monetary matters. It currently has 28 member countries (Algeria, Democratic Republic of Congo, Egypt, Ethiopia, Gabon, Ghana, Ivory Coast, Kenya, Morocco, Nigeria, South Africa, Argentina, Brazil, Colombia, Ecuador, Guatemala, Haiti, Mexico, Peru, Trinidad and Tobago, Venezuela, China, India, Iran, Lebanon, Pakistan, Philippines, Sri Lanka, and Syria) and several countries and institutions as observers.

One for India is estimated to be far lower than the revenue gains from the Equalisation Levy.[18] Given these challenges, there is little clarity on the consensus between the Global South and developed countries over implementing the two-pillar approach.

In 2016, the G20 also aimed to strengthen consumers' rights related to e-commerce. In 2017, the focus on e-commerce was furthered by committing to work towards a common understanding and improved measurement of digital trade.[19] The leaders decided to work together in WTO discussions related to e-commerce during the WTO's 11th Ministerial Conference (MC). At the MC 11, 71 countries committed to initiating exploratory work towards the future of WTO negotiations on trade-related aspects of e-commerce through a joint statement initiative (JSI).[20] In 2018, under the Argentine presidency, the G20 emphasised the need to collect comparable and consistent e-commerce data to boost e-commerce adoption by individuals and businesses in all industries. The grouping also suggested using e-commerce platforms to enable women in rural areas to market their products.[21] As of January 2021, 86 WTO members have participated in the JSI discussion.[22] The JSI examines issues under six core themes: enabling e-commerce, openness and electronic commerce, trust and digital trade, cross-cutting issues, telecommunications, and market access.[23]

However, G20 countries are divided in their views on JSIs. In 2018, India and South Africa said that the moratorium on customs duties on electronic transmissions should be reconsidered as it could lead to substantial revenue loss for developing countries.[24] They also argued that there is no common understanding among the WTO members about what is covered under 'electronic transmissions'. According to a 2019 report, among the 95 developing countries, India is the second largest net importer of physical digitisable products, while South Africa is the fourth biggest.[25] With the rise in digital trade, the customs revenue from physical trade is likely to reduce, leading to a significant loss of tariff revenues to net importers of physical digitisable products. Given that most net importers of physical digitisable products are

developing countries, the likely revenue loss for them will be higher than for the developed countries. Moreover, India and South Africa have also opposed the JSIs for being "legally inconsistent with the fundamental principles and procedures of Marrakesh Agreement"[d] and think they could be "detrimental to the functioning of rule-based multilateral trading system".[26]

- **Promoting investment in digital infrastructure and bridging the digital divide**

Given the growing role of digitalisation across sectors and industries, there is an urgent need to address the existing digital divide, particularly in developing countries. Almost half of the world's population still does not have access to basic digital services such as the internet—while 87 percent of people in developed countries use the internet, only 44 percent in developing countries have internet access.[27]

Access to physical, service, and security infrastructure is vital to enhance the digital economy. There is a need for high-quality digital services, including high-performing digital connectivity, to enable the future of work, upskilling and learning, and smart health systems. The G20 leaders have recognised the importance of ICTs and digital technologies in offering multiple opportunities for social inclusion and gender equality. In 2019, the G20 leaders reiterated the need to support initiatives such as promoting investment in domestic and international digital connectivity, scaling up fibre connectivity, and promoting a non-discriminatory and pro-investment marketplace.[28] Under the Italian presidency (2021), the G20 leaders reaffirmed the need to promote investments in the digitalisation of software, hardware, complementary intangible know-how, and research and development.[29]

d The Marrakesh Declaration was an agreement signed by 124 countries on 15 April 1994. It marked the conclusion of the eight-year long Uruguay Round and established the WTO.

- **Promoting digital skills and training**

The G20 leaders have recognised the risk associated with expanding the digital economy and have emphasised the need to promote the dissemination of digital skills.[30] At the Buenos Aires Summit in 2018, the DETF and the G20 working groups on education and employment organised workshops to build opportunities for the future of work.[31] The leaders noted that there is a need to address the mismatch between existing and required skills. In 2020, the G20 brought to attention the potential impact of AI on the future of work.[32]

The grouping has acknowledged the potential risk of the social and economic exclusion of vulnerable groups, including the youth, elderly, women, persons with disabilities, and individuals in displaced environments. It has also highlighted the importance of building digital literacy, skills, capacity, and human capital to enable individuals to adopt digitalisation in new forms of employment, including new businesses, particularly MSMEs. Under Germany's presidency in 2017, the leaders welcomed the 'G20 Initiative to Promote Quality Apprenticeships' and promoted skills through vocational and on-the-job training. The leaders also encouraged the G20's flagship project (under the G20 Development Working Group) called #eSkills4girls to help improve digital skills and employment for women and girls in the digital economy, which was also supported by the consequent presidencies. In recent years, more emphasis has been laid on AI-related skills that MSMEs may require to develop relevant goods and services for the competitive AI-driven market.

A 2021 OECD study indicated that across G20 countries, female-owned MSMEs were less likely to increase their digital activities related to financial products and services. This was partially addressed under the Italian presidency in 2021 when the G20 leaders acknowledged the need to focus on the lack of female-led start-ups in the tech sectors and fill the gender gap in the science, technology, engineering and mathematics (STEM) fields.

- **Enforcing intellectual property rights**

IPR is crucial for the development of the digital economy and the benefit of consumers and businesses.[33] Under China's presidency (2016), the G20 leaders launched the 'New Industrial Revolution Task Force' and the 'New Industrial Revolution Action Plan', which aimed at reiterating the relationship between IPR protection and technological innovation.[34] Over the years, the G20 leaders have acknowledged the critical need to respect IPR to strengthen confidence and trust in the digital economy; the issue has been discussed by nearly every presidency from 2016 to 2022. In 2019, under Japan's presidency, the G20 focus was drawn to IPR in the context of the free flow of data. However, no substantial steps have been taken so far toward enforcing IPR for the digital economy.

- **Boosting MSMEs and entrepreneurs in the digital era and accruing benefits from digitalisation and emerging technologies**

Digitalisation has created new opportunities among MSMEs. In the past, the G20 leaders emphasised the promotion of policies to support the use of ICT for innovation and improved competitiveness by MSMEs.[35] They also stressed the need to promote affordable infrastructure for the digitisation of MSME operations and to encourage them to participate in global value chains. In 2016, the G20 leaders launched the 'G20 Entrepreneurship Action Plan', which aimed to improve the assistance available for entrepreneurs to access opportunities in the digital economy. In 2017, under Germany's G20 presidency, the leaders recognised the need to share best practices, knowledge, and skills to enable MSMEs to identify new business opportunities and financial resources.[36] In 2018, the G20 underscored the importance of promoting a business-friendly environment, and proposed building skills and digital literacy and advancing policies that encourage innovation and market access.[37] During Japan's G20 presidency (2019), the leaders highlighted the role of emerging technologies, such as AI, in fostering innovation within MSMEs.

The COVID-19 pandemic has hastened the need for businesses to adopt digital tools. The Italian presidency emphasised the potential benefits of using emerging technologies such as distributed ledger technologies or blockchain to ensure transparency and accountability for consumers and MSMEs.[38] Furthermore, under the Saudi Arabian presidency, the G20 developed the 'Policy Options to Support Digitalisation of Business Models during COVID-19',[39] highlighting the importance of ensuring security in the digital economy as a risk management strategy for MSMEs. The Italian presidency raised awareness about consensus-based standards and their application, strengthening risk-based ICT security certification schemes, training workers, and enhancing industry-research centre collaborations to create a secure digital environment for larger firms and MSMEs.

- **Ensuring consumer protection and security**

As the digital economy and digital financial services develop, there is an increased risk associated with new digital technologies. Since 2017, the G20 has underscored the importance of enforcing competition and consumer protection laws in the digital economy to ensure innovation and growth.[40] In 2018, the G20 launched the 'Toolkit for Protecting Digital Consumers'.[41] The same year, the Argentine presidency held the G20 Consumer Summit to empower and protect the most vulnerable and disadvantaged consumers.[42] Given the increase in the uptake of e-commerce and digital markets during the pandemic, in 2021 the G20 leaders recognised that digital markets should tackle asymmetries in individual transactions and promote consumers' awareness and empowerment.[43] In 2021, the Italian presidency welcomed the 'Multistakeholder Forum on Consumers' Awareness, Protection, and Blockchain for Traceability in the Digital Economy'. Moreover, under the G20 Menu of Policy Options, the Italian presidency recommended adopting the 'protection by design' approach to encourage an inclusive strategy to design new digital financial products and services that will prevent unfair and aggressive market practices and ensure legitimate use of customer data.[44]

- **Promoting the adoption of AI by MSMEs**

Under the Japanese presidency in 2019, the G20 committed to providing an enabling environment for the higher adoption of AI by MSMEs.[45] Furthermore, the G20 aimed to increase international cooperation over the next two years to promote MSMEs' inclusiveness through knowledge-sharing. This gained further momentum during the Italian presidency with the establishment of the 'G20 Policy Examples on How to Enhance the Adoption of AI by MSMEs and Start-ups'.[46] Some of the recommendations to encourage AI adoption included raising awareness among MSME entrepreneurs and workers about the benefits of AI and data management and promoting a culture of responsible AI use.

- **Data free flow with trust**

With the development of the digital economy, the cross-border flow of data, data storage, and data use has become vital.[47] The G20 noted the significance of the cross-border flow of data in generating innovation, productivity, and sustainable development under Japan's G20 presidency (2019). At the Osaka Summit, the G20 leaders acknowledged the need to develop domestic and international legal frameworks to harness the digital economy's opportunities.[48] They committed to encouraging the interoperability of different frameworks and reaffirmed the role of data for development. In 2020, under Saudi Arabia's presidency, the G20 once again called for relevant legal frameworks to facilitate cross-border data flow.[49] It proposed sharing best practices for data policy, particularly interoperability and transfer mechanisms. Moreover, the grouping reaffirmed the importance of the interface between trade and the digital economy, highlighting the negotiations under the JSI on electronic commerce at the WTO. In 2021, the G20 Digital Economy Ministers welcomed the existing work of the OECD that identified commonalities in regulatory approaches for cross-border data transfers.

India has, however, shown resistance on this issue under the digital economy agenda. In 2019, India, South Africa, and Indonesia refrained from promoting cross-border data flow and did not sign the Osaka Declaration.[50] India believes that the narrative of data free flow with trust should be more accommodative of emerging economies and developing nations. Given that several developing economies are still in the process of defining and creating personal data protection frameworks, India refused to accept the concept of data free flow with trust in 2020.[51]

- **Other intermittent priorities**

a. Innovative and agile governance: At the Osaka Summit, the G20 committed to implementing innovation-friendly policies that are more holistic, flexible, and agile for the digital economy.[52] The leaders welcomed sharing best practices through the G20 Repository of Digital Policies established during the Argentine presidency. In 2020, the Saudi Arabian presidency acknowledged the different approaches taken by the G20 members on this front, including the use of regulatory sandboxes.[53]

b. Improving trust and safety for children: The need to protect and empower children in the digital environment as part of the G20's digital economy priorities was first discussed during the Argentine presidency in 2018.[54] The priority was highlighted in 2021 at the Rome Summit,[55] when the G20 noted that children might be more vulnerable than adults due to illegal content, contact and conduct, and cyberbullying. With the pandemic, such risks have been exacerbated. The grouping introduced the 'G20 High-Level Principles for Children Protection and Empowerment in the Digital Environment' to address these issues.[56]

c. Smart cities: Smart technologies can change the nature and economics of infrastructure. Through digital technologies, city governments, employers, and residents can utilise the data points to optimise existing systems. For instance, data points and technologies can be utilised to allow digital business licensing and permitting,

online retraining programmes, digital land use, and building permits, among other activities.[57] The priority of developing smart cities under the G20 digital economy agenda was first introduced in 2017. Since then, it has been mentioned intermittently in 2019, 2020, and 2021. At the Osaka Summit, the G20 encouraged networking and experience-sharing to develop smart cities. To address the issue, the G20 proposed the establishment of a Global Smart City Coalition and a Smart City Forum.[58] In 2020, the G20 built on the efforts undertaken by Japan's presidency by introducing the 'G20 Smart Mobility Practices'.[59] In 2021, more emphasis was laid on the procurement and management of open standard-based digital solutions for smart cities.[60]

Table 2: G20 Dialogues and Workshops under the Digital Economy Agenda (2016-2021)

Presidency	Dialogues and Workshops
2017 - Germany	Digitising Manufacturing in the G20 – Initiatives, Best Practices and Policy Approaches Conference
	First G20 Consumer Summit
2018 - Argentina	Building Opportunities for an Inclusive Future of Work Workshop
	G20 Consumer Summit
2019 - Japan	G20 Digital Economy Multistakeholder Conference
	Super City/Smart City Forum 2019
2020 - Saudi Arabia	G20 Cybersecurity Dialogue
	Dialogue on Trustworthy AI in Pandemic Response
	G20 Workshop on Measurement of the Digital Economy
2021 - Italy	Multi-stakeholder Forum on Digital transformation in Production for Sustainable Growth
	G20 Expert Workshop on Measurement of the Digital Economy.
	Connectivity and Social Inclusion Forum

Table 3:
G20 Initiatives and Agreements under the Digital Economy Agenda (2016-2021)

Presidency	Initiatives and Agreements
2016 - China	Blueprint on Innovative Growth
	G20 New Industrial Revolution Action Plan
2017 - Germany	G20 Initiative to Promote Quality Apprenticeships
	G20 Entrepreneurship Action Plan
	Roadmap for Digitalization
2018 - Argentina	G20 Toolkit for Measuring the Digital Economy
	G20 Digital Government Principles
	Bridging the Digital Gender Divide - Delivering Impact
	Accelerating Digital Infrastructure for Development (compilation of references)
	G20 Repository of Digital Policies
2019 - Japan	G20 AI Principles
	G20 Global Smart Cities Alliance
2020 - Saudi Arabia	G20 Smart Mobility Practices
	Common Framework for Measuring the Digital Economy
	G20 Examples of Practices Related to Security in the Digital Economy
	Survey on Agile Regulation across G20 Members
	Examples of National Policies to Advance the G20 AI Principles
2021 - Italy	G20 Policy Examples on How to Enhance the Adoption of AI by MSMEs and Start-ups
	Blockchain in Global Value Chains: G20 Collection of Practices and Examples
	G20 High-Level Principles for Children Protection and Empowerment in the Digital Environment
	G20 Practices of Innovative Public Procurement for Smart Cities and Communities
	G20 Compendium on the use of digital tools for public service continuity
	G20 Collection of Digital Identity practices
	Terms of Reference of the G20 Digital Economy Working Group

India's Digital Economy Priorities at the G20

Over the years, India's digital economy agenda has included priorities such as building digital infrastructure, digital skills, and digital platforms; strengthening supply chains; and ensuring cybersecurity. As the co-chair of the G20's Framework Working Group[e] in 2021, India has recognised that digitalisation will continue to play a key role in improving economic growth.[61]

- **Building digital infrastructure**

At the G20 Digital Economy Ministerial Meeting in Salta, Argentina (2018), India highlighted its 'Digital India' initiative, under which the government committed to improving digital inclusion by increasing broadband availability through optimal fibre networks across all village clusters and to expanding India's telecommunications base.[62] At the Osaka Summit, India recognised the crucial role of digital infrastructure in overcoming capacity constraints.[63] In 2021, India reiterated the importance of digital inclusion and bridging the digital divide.[64] The country has taken several steps to meet its agenda. To ensure last-mile broadband connectivity to *gram panchayats*[f] in the country, India has implemented the BharatNet under its Digital India programme. With a capital of INR 10 billion, BharatNet has been mandated to create a national optical fibre network, covering 2,50,000 *gram panchayats*[f] in 641 districts.[65] As of November 2021, 66.4 percent of the gram panchayats have been covered under the programme.[66]

In 2020, at the G20 Digital Economy Ministers' Meeting, India emphasised the need to build digital platforms to ensure equitable, inclusive, and sustainable economies.[67] It focused on building applications that can positively impact livelihoods, accelerate various sectors, strengthen the supply chain, and build a cyber-safe world.[68] Moreover, India acknowledged the central role of technology and digitisation in enabling government response to the disruption to

e The Framework Working Group was established in 2009 at the G20 Summit in Pittsburgh with the purpose of attaining strong, sustainable, and balanced growth.

f Village-level governing bodies.

livelihoods and economies caused by COVID-19.[69] Speaking at the G20 Digital Ministers' Meeting in 2020 and 2021, India's electronics and IT minister highlighted the crucial role of technologies and public digital platforms, such as direct benefit transfer and Aadhaar (digital identity), in ensuring social and economic empowerment.[70]

India's approach to building digital infrastructure is primarily industry-led but backed by public infrastructure and regulatory architecture. Providing digital public infrastructure has allowed industry-led innovation to build on the backbone of digital architecture and has opened up several opportunities for private and public players to deliver their services digitally and at minimal costs. Additionally, digital innovation in fintech has reached several domains previously not adequately supported by the traditional banking sector.[71]

India has seen tremendous development based on its approach of providing extensive public standards and infrastructure as a public good through the India Stack and Modular Open Source Identity Platform.[72] With the help of open application programme interfaces (APIs) and digital public goods, India has created three basic layers of infrastructure that allow interoperability and user-authorised data portability—the identity layer (Aadhar ID), payments layer (Aadhaar-enabled payments system), and the data layer.[73] The identity layer provides every resident with a unique ID; the payments layer allows interoperable and fast and affordable transactions (even for those without a smartphone); and the data layer enables secure data sharing.

- **Resilient supply chains**

During the pandemic, restrictions on transport and movement were barriers to economic activity in most sectors and disrupted global value chains. As a result, the world economy and trade contracted, and global manufacturing diminished.[74] Digitalisation helped mitigate the economic damage to some extent.[75] Recognising the crucial role of digitalisation in ensuring a robust digital economy,

India emphasised the need to build resilient global supply chains to make the country an attractive destination for investment, a key aspect of global supply chains.[76]

Additionally, India has emphasised the need to diversify global supply chains for greater resilience. In 2021, India became a part of the Supply Chain Resilience Initiative (SCRI) along with Japan and Australia.[77] The initiative aims to build supply-chain resilience in the Indo-Pacific region by supporting the utilisation of digital technology and trade and investment diversification. But the SCRI's current focus on the Indo-Pacific is restricting as the region includes only a few G20 countries. India can consider spearheading the initiative beyond the region to ensure a greater representation and scope for building resilient supply chains.

Moreover, the digitalisation of value chains can improve supply chain resilience.[78] Thus, enhancing digital technology access for MSMEs is also closely linked to improving supply chains. COVID-19 accelerated the use of digital technology across MSMEs in India; for instance, in the second half of 2020, there was about a 90 percent increase in seller registration with e-commerce companies by MSMES as compared to the previous year.[79] At the same time, a low level of awareness and limited digital skills still act as barriers for complete integration with digital markets.[80]

- **Cybersecurity**

Cybersecurity is a major area of concern that directly relates to the growth of the digital economy. Growing cross-border cyberattacks can pose a great threat to the growth of the digital economy and cross-border trade. The agenda of ensuring cybersecurity was highlighted by India in the G20 Digital Ministers' Meet in Germany in 2017.[81] In 2020, India reiterated the importance of protecting its citizens and ensuring that digital platforms become more trustworthy, safe, and secure. It also acknowledged that digital platforms must become accountable and responsive to the sovereign concerns of countries, including defence, privacy, and security of its citizens.[82]

India's Digital Economy Priorities at the G20

- **Digital skills**

The lack of digital and financial literacy continues to hamper the adoption of digital financial services. In 2019, India acknowledged the importance of supporting women in STEM, and in 2020 recognised the need to develop the digital skills and capacities of developing countries and least developed countries.[83] At the national level, India has launched the DigiSaksham, a digital skills initiative, in 2021 to help skill, upskill, and reskill the youth to improve their employability.[84] The initiative aims to provide free-of-cost training to more than 300,000 youth in the first year.

> "India's digital economy agenda has included priorities such as building digital infrastructure, digital skills, and digital platforms; strengthening supply chains; and ensuring cybersecurity. The country has also recognised that digitalisation will continue to play a key role in improving economic growth."

Recommended Focus Areas for India's G20 Presidency

India is one of the fastest-growing digital economies in the world. The country recorded over 88.4 billion digital payment transactions in 2021-22, and 284 million digital transactions in a day on average in FY2022-23 (until July 24, 2022).[85] Similarly, with the rapid adoption of digitalisation, the scope of the digital economy is increasing—the Indian e-commerce market is expected to grow to US$74.8 billion by the end of 2022.[86] With the expanding scope of digitalisation, the digital economy has become increasingly important for India and other emerging economies. Therefore, India can focus on six areas during its G20 presidency while aligning its digital economy goals with the overall G20 agenda under the DEWG in 2023:

- **Establishing a G20 roadmap to build resilient supply chains through digitalisation**

The pandemic has caused widespread disruption in supply chains and clearly demonstrated the need to build more resilience. Developing countries also face the challenges of poor digitalisation at nodal infrastructure facilities, such as airports, ports, and border crossings.[87] Such challenges increase trade costs and become particularly cumbersome for MSMEs with relatively low margins. Digitalisation has the potential to benefit MSMEs and large businesses in emerging economies to gain access to global supply chains.[88] Moreover, the entry of consumers from emerging markets also offers equal opportunities for global digital trade. Under the SCRI, India has committed to supporting the utilisation of digital technologies to make supply chains more resilient.[89] India can highlight the need to build robust global supply chains through digitalisation at the G20. Under the G20 DEWG agenda, India must establish a 'G20 roadmap to build resilient supply chains through digitalisation'. The roadmap must focus on creating a clear guideline, with a special focus on MSMEs, to engage in e-commerce, and improve access to new digital markets and the utilisation of digitalisation (for instance, through AI, robotics, cloud computing, and automation) to transform production and improve global competitiveness.

- **Encouraging e-commerce multilateral cooperation beyond the JSI**

The ongoing WTO negotiation on the JSI on e-commerce and services domestic regulation was initiated to fill the gap in global governance for digital economy and trade, but there is a clear divide among G20 members on the basic nature of JSIs. The G20 countries must explore a multilateral consensus on the development of e-commerce, ensuring that trade competitiveness in the digital economy is not negatively affected in developing countries. India can play a crucial role in reviving multilateral negotiations on this front by initiating a dialogue. The G20 must explore ways to build on the 'Declaration on Global Electronic Commerce' adopted at the Second Ministerial Conference in 1998 and reinforce the Marrakesh Agreement. It should discuss alternatives to strengthen multilateral initiatives and emphasise the significance of reaching a multilateral consensus on e-commerce beyond the JSI.

- **Promoting intellectual property rights for the new industrial revolution**

As more businesses uptake the digital economy and digitally driven business models, the implications for intellectual property (IP) become more significant. In the last decade, there has been a substantial rise in unicorns in India—as of February 2022, the country has 88 unicorns with a total valuation of US$295 billion.[90] Strengthening IP rights will be crucial to empower individuals to offer their products as part of the global value chains.[91] Deeper integration into global supply chains will require harmonising regulatory standards and measures. Thus, global cooperation in harmonising regulatory standards is important to reduce costs and increase accessibility to global value chains.

Since the initiation of the DETF and the Ministerial Meeting, the G20 countries have reiterated the need to enforce IPR to develop the digital economy. In 2016, the G20 launched the New Industrial Revolution Task Force and the G20 New Industrial Revolution Action Plan, which aimed at reiterating the relationship between IPR protection and

technological innovation.[92] India can build on efforts to promote G20 collaboration on IPR protection and voluntary knowledge sharing by initiating a dialogue on IPR for the new industrial revolution. In addition, the dialogue can support international cooperation in strengthening IPR protection mechanisms through existing multilateral treaties and agreements, including the TRIPS Agreement.[g]

Currently, the two crucial institutions critical for managing digital infrastructure, standards and technology protocols are the Internet Corporation for Assigned Names and Numbers (ICANN) and the International Telecommunication Union (ITU). The ICANN, headquartered in the US, represents a multistakeholder approach (involving private stakeholders) towards controlling the internet's core infrastructure.[93] On the other, the ITU, a UN special agency, is seen to assume a more multilateral approach, which has traditionally only represented the interests of nation-states.[94]

However, in the current geopolitical scenario, the two institutions are entangled in an unfriendly confrontation to gain prominence over the other.[95] The challenge for the Indian presidency is to bring the two organisations together to support an inclusive global institutional framework and prevent a split in the already fragmented global governance structure. A dialogue can enable the G20 countries to explore policy options for international cooperation on reinvigorating the discussion on IPR for the digital economy, which reflects the interests of emerging and developing economies.

- **Promoting use of open application programming interface**

In the past, open-source APIs have played a significant role in building digital tools as public goods and enabled access to various digital platforms. It is crucial to develop the open-source API ecosystem to enable access to the digital economy at a minimal cost. Open APIs can facilitate interoperability and enhance the development of new technologies and use cases.[96]

g The TRIPS Agreement, which came into effect on 1 January 1995, is the most comprehensive multilateral agreement on intellectual property to date.

In 2020, the European Commission launched an APIs4DGov study to understand the current use of APIs in digital governance and to identify added value for society and public administration.[97] Consequently, an API framework was published to inspire governments to take up the adoption of APIs. However, no such digital architecture is yet available for the G20 countries. During its G20 presidency, India can promote open APIs by laying down a framework to ensure software interoperability for digital applications and enourage multistakeholder participation in the digital economy. The framework should aim to enable the safe and reliant sharing of information and digital applications that create a positive impact on livelihoods. It can include API best practices and self-assessment tools to assess the degree of adoption of the framework.

- **Address the challenges arising from the future of work**

According to a 2018 study, the G20 countries could lose up to US$11.5 trillion in cumulative GDP growth till 2028 if skill-building does not match the rate of technological progress.[98] The pandemic has further exacerbated and exposed the urgent need to build digital skills to adjust to the digital economy. In the post-pandemic scenario, by 2030, India's share of total work hours using physical and manual skills will decline by 2.2 percent and time devoted to technological skills will rise by 3.3 percent.[99] Given the transition to remote working and the rise in technological skill demand, countries with large unskilled populations and manual labour, such as India, are likely to suffer the most. Consequently, there is an urgent need to prioritise this agenda to achieve an inclusive transition and development for all in the digital economy.

Under India's presidency, the G20 can build on the work done by the Argentine presidency in 2018 towards ensuring that the opportunities offered by the digital economy are harnessed and shared by all. It can do so by establishing a 'future of work' task force under the DEWG. The task force should aim to study the changing demand for skills and training with growing digitalisation. It should closely work with

the G20 Employment Working Group to create indicators and a measurement tool ('future of work readiness assessment') to measure G20 countries' readiness for the future of work.

- **Building trust to enable cross-border data flows**

Data flows have expanded exponentially in the last few years. In the past decade, the GDP contribution from data flows has been equivalent to the value of global trade in physical goods and services.[100] It is estimated that cross-border data per capita is growing at 50 percent per year per country, indicating the enormous data flows.[101] With the increasing role of data flows in the digital economy, data sovereignty across the world has taken different pathways in the form of data localisation and the degree of regulation.

As witnessed during the Osaka Summit in 2019, differing pathways in data regulation make it increasingly difficult to attain a G20 consensus on cross-border data flows. Several developing and emerging economies are still in the process of defining their regulatory frameworks for personal data. For instance, the Indian government has withdrawn the Personal Data Protection Bill, 2019, and plans to replace it with a new "comprehensive legal framework".[102] Therefore, under India's presidency, the DEWG must build global standards on data governance that are responsive to the different speeds and market competitiveness.

The Indian presidency should aim to promote the advancement of a data-driven economy but, at the same time, also emphasise the importance of maintaining adequate protection of personal data and privacy for developing economies. For instance, the Brazilian general data protection regulation allows data to be transferred outside the country, but only with the application of adequate and equivalent data protection rules. Similarly, under its G20 presidency in 2022, Indonesia has assumed a middle path by recommending the development of both a national data centre and a private data centre by foreign investment.[103]

Recommended Focus Areas for India's G20 Presidency

For the Indian presidency, it is vital to continue the global dialogue to build trust and work towards a global consensus on cross-border data flows, ensuring the conditions for safe innovation. India must aim to build a collaborative approach with the G20 countries, which recognises the need for innovation and data protection.

> During its G20 presidency, India can focus on: establishing a G20 roadmap to build resilient supply chains through digitalisation; encouraging e-commerce multilateral cooperation beyond the Joint Statements Initiative; promoting intellectual property rights for the new industrial revolution; promoting the use of open application programming interface; addressing the challenges arising from the future of work; and building trust to enable cross-border data flows.

Conclusion

Over the years, India has been an active participant in the G20 Digital Economy Ministerial meetings, and has tasked the Ministry of Electronics and Information Technology as its nodal agency for coordination with the DETF (now DEWG).[104] In 2023, India can play an influential role in developing the long-term plan for the digital economy under its G20 presidency. This paper has traced the G20 priorities for the digital economy agenda between 2016 (under the Chinese presidency) and 2021 (under the Italian presidency). Certain priorities were recognised nearly every year by the G20 presidencies, such as the measurement of the digital economy, cooperation in e-commerce development, consumer protection, promotion of skills and training, acceleration of digital infrastructure, enhancing security, enforcing IPR, and boosting MSMEs in the digital era. Many other priorities have been more country-specific, such as improving trust and safety of children and smart cities. A few priorities have recently gained significance owing to the increasing uptake of the digital economy, especially in the post-pandemic era.

At the G20, India has put forward several digital economy priorities, such as building digital infrastructure, resilient supply chains, supporting digital skills, and addressing cybersecurity issues. Given that India is one of the world's fastest-growing digital economies, there is enormous potential for the Indian presidency to build on past priorities and address new challenges in the post-pandemic age. There are several implementable areas through which India can take forward under its G20 presidency, six of which have been discussed in this paper. As part of the troika, the G20 will provide India with a platform to showcase its achievements and build an inclusive agenda for a digital economy, one that is responsive to the interests of developing economies.ORF

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