Digital Transformation under Indonesia’s G20 Presidency: What can it Deliver?

Lili Yan Ing, Titik Anas and Maria Monica Wihardja*


* Lili Yan Ing (guest writer), is Lead Advisor, Southeast Asia Region, Economic Research Institute for ASEAN and East Asia (ERIA); Titik Anas (guest writer), is Special Advisor to the Minister of Finance, Government of Indonesia; Lecturer at Universitas Padjajaran; and Maria Monica Wihardja, is Economist and Visiting Fellow, Regional Economic Studies and Indonesia Studies Programme, ISEAS – Yusof Ishak Institute.
EXECUTIVE SUMMARY

- The call made by the G20 under Indonesia’s presidency for urgent global action to make digital transformation more equitable is timely. Digital transformation has raised economic inequality in at least three ways: through displacement effects, premature deindustrialisation and skill-biased technological change.

- The G20 has three routes through which it can help address the digital divide and its associated risks: Policy coordination through the G20’s consensus-building role; action in financing; and action in knowledge building.

- There are at least five items to consider for consensus-building:
  - Reduce digital literacy divides within and between countries.
  - Improve privacy and security laws based on a set of agreed overarching principles.
  - Improve competition/antitrust policies by adapting national policies pertinent to the digital era.
  - Strengthen key digital and analogue enablers for scaling up digital transformation.
  - Provide assistance to developing countries to access and adopt technologies.

- In financing, the G20 could accelerate financial inclusion and help fund the digital infrastructure of developing and less-developed countries. In knowledge building, the G20’s auxiliaries such as the T20, B20 and Y20 could play the leading role.
INTRODUCTION

The post-pandemic global growth trajectory shows an uneven recovery, with most sectors remaining below pre-pandemic levels in terms of gross domestic product (GDP). Only a limited number of sectors such as commodities, health, food and beverages, and the ICT-related sector have experienced significant GDP growth since the pandemic erupted. Low- and medium-income countries, as well as more vulnerable population segments (e.g., less-educated groups), workers (e.g., women and youth), and firms (e.g., smaller firms) have been disproportionately affected. Moreover, intensifying geopolitical tensions have placed additional pressure on the world economy.

Indonesia, through its G20 presidency, has put digital transformation – next to global health and the energy transition – as one of the key G20 priorities for 2022, with the theme ‘Recover Together, Recover Stronger’. By placing digital transformation on the agenda, Indonesia aims to create a more inclusive global economic recovery, especially through digitising and digitalising micro, small and medium enterprises (MSMEs), expanding financial inclusion, accelerating digital literacy and skills, and reforming global data governance.

The digital economy has become more central as a new driver of economic growth in the post-pandemic world. However, emerging evidence shows that COVID-19 may be widening the digital divide. One agenda item under the G20 digital transformation action plan aimed at mitigating this is to digitise and digitalise MSMEs. A survey of more than 120,000 firms across more than 60 countries, including four ASEAN nations (Cambodia, Indonesia, the Philippines and Vietnam), found that smaller firms were hit much harder than larger firms during the pandemic and were less likely to receive policy support (World Bank, 2021a). Moreover, at least in East Asia, smaller firms were also less likely to adopt more advanced technologies (World Bank, 2021b).

To enable more disadvantaged smaller firms and unbanked populations to conduct digital transactions, the agenda items under the G20 digital transformation action plan also include accelerating digital financial inclusion. Small and medium-sized firms are mostly excluded from formal borrowing, despite increasing numbers having an account at a financial service provider (Global Partnership for Financial Inclusion, n.d.). The G20 Financial Inclusion Indicators in 2017 also show that while 90.5% of adults (age 15+) in high-income countries made or received digital payments in the past year, only 25.6% of adults in low-income countries did. Globally, while 66.2% of adults with secondary education or higher made or received digital payments in the past year, only 35% of adults with primary education or lower did.
Moreover, since gaps in digital literacy and digital skills are still pervasive across and within countries (Burns, 2022), accelerating digital literacy and skills will also be included in the agenda.

The next section discusses the digital transformation paradox, explaining why certain regulations are needed at both the national and global levels to avert a digital divide, and related risks and threats. Following that, concrete and necessary commitments for digital transformation that can be delivered under Indonesia’s G20 presidency are discussed.

THE DIGITAL TRANSFORMATION PARADOX

The main reason to undertake a digital transformation is perhaps productivity gains. However, many observers, including Wolf (2018) and Acemoglu (2021a), argue that digital transformation may actually bring negative consequences for overall productivity growth and distribution – at least in the short run. Wolf contends that digital technology is transformational, but the aggregate effects, even after controlling for possible mismeasurement (Byrne and Sichel, 2017), are modest at best compared to the effects brought about by innovations in electricity, energy, transportation and health in the late nineteenth and early twentieth centuries. Acemoglu shows that as automation advanced, wage gaps between those in the top and bottom of the income distribution widened.

Digital transformation also comes with risks. The dark side of digital technologies, including widening economic inequality, exploitation of individual privacy, an infodemic and political polarisation (Acemoglu, 2021a), is amplified when the analogues, such as education, basic infrastructure and institutions, are not well developed, or are weak or corrupted.

THE DIGITAL DIVIDE

In 2016, the top 1% of the world’s population owned half of the global wealth. But for the past two years, the income of 99% of the global population has shrunk while the income of the top ten richest people has doubled (Hardoon et al, 2016; Ahmed et al, 2022). Eight of the top ten richest people are technology titans, some of them owning US technology giants that have become influential in shaping policies, political views and individual behaviour.

Digital transformation increases economic inequality in at least three ways, beginning with displacement effects. Capital and technology take over tasks previously performed by labour, while automation reduces the share of labour contribution in value added. Displacement affects both employment – type of employment and number of employed –
and wages, particularly for middle-skilled workers carrying out manual and routine tasks in manufacturing: They are more likely to be replaced by robots and AI-powered automation. Displacement effects could be accelerated by the adoption of labour-replacing technologies (instead of labour-augmenting technologies), tax systems that favour capital vis-à-vis labour, strong labour unions, and high unit labour costs that incentivise firms to automate processes.

Second, digital transformation creates premature deindustrialisation in developing countries (Rodrik, 2022), which may in turn raise inequality, especially as employment growth in modern large-scale manufacturing firms (a source of middle-class jobs; see World Bank, 2021c) becomes anaemic. Premature deindustrialisation may occur in developing countries, where the comparative advantage is in labour-intensive industries, and some of these countries lack an educated and skilled workforce that can move up to higher-skill, more capital-intensive industries. Developing countries may also experience reshoring of manufacturing to developed countries, where high labour costs can be replaced with automation.

Third, digital transformation creates skill-biased technological change. Technologies, most of which are imported from advanced countries by developing countries, tend to be skill- and capital-intensive. Therefore, digital transformation benefits better-educated and higher-skilled workers more than less-educated and lower-skilled workers. Empirical evidence from Indonesia shows that while internet penetration benefits all types of workers except the least educated, the incremental benefits from internet penetration are greater for better-educated workers, thereby widening skill premiums and wage inequality that existed before the arrival of the internet (World Bank, 2021d).

The diverse effects of inequality-inducing technological change on countries and demographic groups arguably depend on a country’s digital and analogue infrastructure, antitrust laws and enforcement capacity, as well as the digital literacy and skills of various demographic groups, among other domestic factors. Although the extent to which each factor plays a role in widening inequality in the presence of digital technologies is still unclear, anecdotal studies show the importance of complementary policies.

A case in point is China, which has been able to develop digital finance and e-commerce at scale across its society. It has put in place public policies to form the backbone of its unprecedented digital transformation: These are policies that ensure a healthy and well-educated population, on last-mile transportation infrastructure, countrywide access to a fibre-optic or 4G network and a single set of tax codes, business norms and other regulations (Wong and Wihardja, 2022).

The pandemic has also spotlighted and exacerbated the digital divide. For example, in Indonesia, 84% of high-skilled jobs can be done from home, but 85% of low-skilled jobs require physical presence in the workplace (World Bank, 2021d).
Last, the global digital divide is a challenge. Digitalised systems and digitally deliverable goods and services are still less prevalent in the least-developed countries than in other parts of the world. While over half the population in high-income countries shopped online in 2019, only 2% of the population in low-income countries did likewise (UNCTAD, 2022). Countries, firms and individuals vary greatly in their digital trade readiness, depending on education, skills and infrastructure.

DIGITAL PRIVACY, CYBERSECURITY, RISKS AND THREATS

On top of inequality issues, we face other significant challenges in digital transformation, including in digital trade: privacy, cybersecurity, and competition.

First, private individual information and data are made available to service providers, enabling the pervasive exchange of data that has fuelled concerns about data use and misuse. A case in point is the Cambridge Analytica scandal affecting the Brexit referendum and the 2016 US presidential election. With the use of AI-empowered algorithms, large profit-making social media platforms can target individuals with personalised messages and advertising, and control the news and (mis)information received or filtered out from the public discourse.

Second, the rapid expansion of digitalisation and the use of data by businesses and consumers for information, communication, digital trade and innovation comes with increased threats—against data, systems and people. Without cybersecurity for software (education, knowledge and awareness) and hardware (technologies, processes and practices) to protect users from cyberattacks, the threat of such attacks increases.

Third, competition is a challenge. Technological advancement enables firms to produce and operate in massive economies of scale because of the almost zero marginal costs, combined with large fixed costs, leading to market concentration.

A concentrated market has widespread implications. It reduces competition and can create barriers hindering potential competitors, including MSMEs and start-ups, from entering markets. This means large tech players can use vertical and horizontal integration as their strategy to dominate and capture more revenues (or markup) at the expense of consumers. There is also an implication for employer–employee relations. A monopsony or duopsony market of large firms undermines workers’ bargaining power and may drive wages below competitive levels.

The absence of cross-border digital tax might also create a non-level playing field between brick-and-mortar and digital businesses and a bias in favour of multinational technology giants. Similarly, a non-harmonised antitrust law and its enforcement could create market
concentration in one country (e.g., of the US big tech companies) which might have global spillovers.

The digital economy is perhaps the most globalised of all economic sectors and global-level complementary policies are needed as much as national-level complementary policies to create a more equitable global transformation. The issues of privacy, cybersecurity and competition are in some ways a result of the lack of international rules and norms.

However, creating international rules and norms in these areas is extremely complex, especially given the strategic competition between the United States and China, including a proxy technological war on digital trade, standards and procurement policy, which is creating a splinternet (Malcomson, 2016). It is also reducing the prospects of cross-border digital payments and the internet of things, among others.

With digital technologies becoming central and indispensable in supporting future economic growth across the world, and the risks and threats affecting the global population and (geo)political discourse (Acemoglu, 2021a), the G20 remains a relevant platform on which to discuss the high-level global challenges related to digital transformation.

**DELIVERING AN INCLUSIVE DIGITAL TRANSFORMATION**

The G20’s origins go back to 1998 and the Asian financial crisis. The main goal of the G20 then was to strengthen the global financial system and better coordinate macroeconomic issues among finance ministers and central bank governors. The G20’s elevation in 2008 to a leaders summit successfully mobilised the world’s response to the global financial crisis. The initiation and elevation of the G20 changed the whole structure of global governance. It is the first global forum of international economic cooperation to include both developed and developing countries, and represented about 95 percent of global GDP in 2020.

The G20 has achieved much, including the recent ground breaking Inclusive Framework on Base Erosion and Profit Shifting, an initiative with the Organisation for Economic Co-operation and Development to reform international taxation rules and ensure that global corporations, including tech giants, pay a fair share of tax wherever they operate. Although the G20 risks becoming like a Christmas tree and the organisation certainly needs to be more focused, the widespread social, economic and political impacts of digital transformation justify the addition of digital transformation to the G20 agenda. The implementation of a digital transformation agenda, like other more topical issues discussed under the Sherpa track instead of the Finance Ministers and Central Bank Governors Track, will take place under the existing G20 Digital Economy Task Force and Working Group, in which relevant technical ministries are involved.
The G20 could help address national and global causes of the digital divide and digital risks and threats via three channels: policy coordination through its consensus-building role, action in financing and action in knowledge building.

In terms of policy coordination, there are at least five areas where consensus could be reached. First, the G20 could help improve the preparedness of countries and individuals; essentially, digital transformation is about people. This includes improving digital literacy and skills. Indonesia’s initiative to develop the G20 Toolkit for Measuring Digital Skills and Digital Literacy – developed by Digital Pathways Oxford University and the Centre for Strategic and International Studies to help G20 members measure their digital literacy and skills – is a good start. However, more ambitious national and global complementary initiatives and policies are needed to close the digital literacy and skills gaps.

Moreover, to ensure that technologies benefit society as a whole, the G20 could create a definition of people-centred ‘appropriate technologies’\(^4\) (e.g., expressing the extent to which technologies complement workers and increase productivity rather than replace workers, and maximise social welfare; see also IEA, n.d.), similar to the way in which criteria are created for climate/environmentally friendly technologies.\(^5\) The G20 could also identify incentives to encourage private technology firms to adopt technologies that could bring more good jobs that could provide a middle-class way of life (Rodrik and Sabel, 2019) and hence, political stability (Acemoglu, 2021a). Moreover, a relative tax on capital vis-à-vis labour may also need revisiting by the G20 to stimulate the development of labour-augmenting technologies, instead of labour-replacing technologies. *A Roadmap Toward a Common Framework for Measuring the Digital Economy*, delivered under the Saudi Arabian G20 Presidency in 2020 (OECD, 2020), providing an agreed definition of the digital economy and an agreed set of indicators for measuring the jobs, skills and growth within it, is a critical step to start measuring the impacts of digital technologies across countries in the world in a concerted and standardised way.

Second, the G20 could improve the quality of privacy and security laws. It could agree on a set of principles on privacy and security laws, derived perhaps from existing laws, for example, the European Union’s General Data Protection Regulation, Singapore’s Personal Data Protection Act (Personal Data Protection Commission, n.d.; Personal Data Protection Digest, 2022) and the International Telecommunication Union’s cybersecurity strategy design and implementation (ITU, 2021). The G20 could then help members and non-members to adopt the principles – with adjustments for local context – through technical assistance and capacity building. Since most large technology firms are multinational corporations with global consumers, privacy and security laws in one country have global privacy and security implications.

Third, the G20 could improve competition/antitrust policies. The Secretariat of the United Nations Conference on Trade and Development (UNCTAD, 2021) reported on challenges
faced by competition authorities when dealing with digital technologies, and elaborated on best practices. The EU Digital Market Act, a proposal currently under consideration by the European Commission to ensure a higher degree of competition in European digital markets, could be considered a model in this regard. The International Competition Network could prepare a set of standards to be agreed on by the G20 member countries and secure political commitments from G20 leaders to implement these standards.

Fourth, the G20 could strengthen key digital and analogue enablers. It could adopt guidelines on what might constitute prerequisites for scaling up digital transformation. It could achieve this by reflecting on the experiences of countries that have successfully implemented digital transformation. For example, Indonesia, as the host country, could share how it has attracted billions of dollars of digital investments in recent years and now hosts the largest number of unicorns and decacorns in Southeast Asia. Indonesia’s large and young consumer base is one possible explanation, but there must be an enabling environment that supports this impressive growth which could fit other developing countries.

Fifth, the G20 could provide assistance to developing countries to access and adopt technologies – especially those that have been identified as appropriate technologies (IEA, n.d.) – and digital goods and services to support digital transformation. It is important for the G20 to implement the existing commitments made in digital transformation and digital trade, including the Industrial Revolution Action Plan, the Roadmap for Digitalisation and recently the G20 initiative to enhance the adoption of AI by MSMEs and start-ups. What we need now is to operationalise and implement these frameworks and commitments through the G20 Digital Economy Task Force and Working Group.

In financing, the G20 could accelerate financial inclusion and help fund the digital infrastructure of developing and less-developed countries which are most lagging from a digital transformation perspective, similar to its work in climate change and in global health financing. In knowledge building, the G20’s auxiliaries such as the T20 (Think 20), B20 (Business 20) and Y20 (Youth 20) could lead, for example, by supporting the onboarding of MSMEs to digital platforms and reducing barriers to growth.

CONCLUSION

Indonesia’s G20 presidency has committed to taking action in the three priority areas of digital transformation, global health infrastructure and energy transition. In digital transformation, the G20 could deliver commitments to contribute to inclusive digital transformation by promoting digital preparedness for all, harmonising global digital governance including a regulatory framework on innovation, privacy, security and competition, and improving the quantity and quality of key digital and analogue enablers.
Moreover, policy coordination at the G20 could reduce the ‘cyber-Balkanisation’ that is occurring due to geopolitical tensions and divergent national interests, making consensus-based agreements on global data governance (including privacy and competition policies) difficult to achieve. Otherwise, developing and less-developed countries that are forced to choose camps will be more likely to be the ones bearing the brunt of the splinternet. Further harmonisation of digital economy governance is needed.

With the war in Ukraine continuing, it may be challenging for the G20 to achieve any substantial consensus-based commitment. The war has caused increased tension among G20 countries and the geopolitical agenda may hijack this year’s meeting. Realistically, the G20 may have to be satisfied with lowest common denominator agreements, though Indonesia is aspiring for more. While the G20 Finance Ministers and Central Bank Governors meeting on 20 April 2022 was mostly successful, despite the brief walkout by some member delegations, the hope remains that the G20 can stay relevant amid the current global economic challenges.

REFERENCES

Acemoglu, Daron. 2021a. ‘AI’s future doesn’t have to be dystopian.’ Boston Review. May 21. [AI’s Future Doesn’t Have to Be Dystopian - Boston Review](https://www.bostonreview.net/blogs/daron-acemoglu/ams-20210521-AIs-future-doesnt-have-to-be-dystopian-


Byrne, David and Dan Sichel. 2017. ‘The productivity slowdown is even more puzzling than you think’. CEPR. [https://voxeu.org/article/productivity-slowdown-even-more-puzzling-you-think](https://voxeu.org/article/productivity-slowdown-even-more-puzzling-you-think)


Global Partnership for Financial Inclusion. N.d. ‘G20 financial inclusion indicators’. G20 Financial Inclusion Indicators | Home | The World Bank


Personal Data Protection Commission. N.d. ‘PDPA overview’.


Stanford HAI (Human-Centered Artificial Intelligence). N.d. ‘What problems can AI solve? What problems does it create?’

Statista. 2022a. ‘E-commerce as percentage of total retail sales worldwide from 2015 to 2025’. 27 May.

Statista. 2022b. ‘Retail e-commerce sales worldwide from 2014 to 2025’. 4 February.


**ENDNOTES**

1 The views expressed here are personal. The authors would like to thank Yongmei Zhou (Peking University), Lesly Goh (World Bank), Cassey Lee (ISEAS), and Tham Siew Yean (ISEAS) for their constructive comments.

2 The term was first used by David Rothkopf in 2003 in connection with SARS (see: https://www1.udel.edu/globalagenda/2004/student/readings/infodemic.html).

3 The hollowing out of middle-skilled jobs does not only happen in the United States but in many other parts of the world (Acemoglu, 2021b).


5 See, for example, Stanford HAI, n.d.