Chapter 7

Asia – Europe Cooperation for Building Inclusive Digital Societies

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The drive towards digital societies – where everyday life, including work and politics, is mediated by information and communications technology (ICT) – has been accelerated by the global coronavirus pandemic.

The pandemic has led to the widespread adoption of digital technology across all aspects of life. Telecommuting has become a feature of work. Small businesses and universities, which used to think digitisation was a luxury, now see it as an imperative for survival. Social media has become a lifeline. It is hardly disputed that 'the pandemic created a 'structural break with the past' that made many existing patterns of behavior obsolete but also point to a way forward for society' (Rumelt, 2008).

When building digital societies, there is another consideration that we need to factor in that the pandemic has highlighted – the profound inequality that exists in our global society. The measures proposed to prevent the spread of the virus are difficult for many people to practice. The frequent washing of hands with soap is a challenge for those who have no running water in their homes. Keeping physical distance is almost impossible for those who live in the shantytowns, favelas, and urban poor communities of the global South. If we are to achieve progress and not repeat the mistakes of the past, inclusivity should be a feature of the digital societies we are creating.

Digital Inclusion Imperative

'Digital inclusion' means that individuals, particularly those in disadvantaged groups, have access to, and the skills to use, ICT and are therefore able to participate in and benefit from the emergent digital society (Digital Inclusion, n.d.).

One way of looking at inclusion is through its putative six goals:

1. *Leave no person behind*: ensuring high-quality internet access and adoption for all.

2. *Empower users through good digital identities*: ensuring that everyone can participate in the digital society through identity and access mechanisms that enable the user.

3.   *Make business work for people:* helping companies navigate digital disruption and evolve to new, responsible business models and practices.

4.   *Keep everyone safe and secure*: shaping norms and practices that enable a technology-dependent environment that is secure and resilient.

5.   *Build new rules for a new game*: developing new, flexible, outcome-based, and participatory governance mechanisms to complement traditional policy and regulation.

6.   *Break through the data barrier*: developing innovations that allow us to benefit from data while protecting the legitimate interests of all stakeholders. (World Economic Forum, 2018: 8)

The United Nations Capital Development Fund (UNCDF) has proposed the Inclusive Digital Economy Scorecard (IDES) as a way of measuring inclusiveness in the digital economy. IDES considers the following building blocks:

•   The extent to which a government actively promotes the development of an inclusive digital economy and the extent to which policy and regulation support digital finance and the digital economy;

•   The level of development of mobile infrastructure (e.g. phone ownership and network coverage) and the status of the digital payment ecosystem;

•   The state of a country's innovation ecosystem; and

•   The active participation of the public and private sectors on digital and financial skills development, and the usage of digital channels for relevant skills development. (UNCDF, 2019)

In terms of digital inclusion in politics, eParticipation is the 'process of engaging citizens through ICTs in policy, decision-making, and service design and delivery so as to make it participatory, inclusive, and deliberative' (UN, 2018, p. 112). Macintosh (2004: 3) identifies the three levels of eParticipation as:

•   *E-enabling*: supporting those who would not typically access the internet and take advantage of the large amount of information available.

•   *E-engaging*: consulting a wider audience to enable deeper contributions and support deliberative debate on policy issues.

•   *E-empowering*: supporting active participation and facilitating bottom-up ideas to influence the political agenda.

The United Nations (UN) eGovernment Survey contains an eParticipation Index that measures: '(i) e-information – availability of online information; (ii) e-consultation – online public consultations, and (iii) e-decision-making – directly involving citizens in decision processes' (UN, 2018, p. 112).

Measuring Progress

Progress towards inclusive digital societies can be gleaned in a number of indexes.

The Inclusive Internet Index 'measures the extent to which the Internet is not only accessible and affordable, but also relevant to all, in a way that contributes to social and economic progress' (Economist Intelligence Unit, 2020: 12). The key findings of the Inclusive Internet Index 2020 are:

- Internet access is increasing globally, but vast disparities remain and the rate of uptake is slow in the hardest-to-reach areas.

- Mobile data has been a game-changer for lower-income groups, but access is still too expensive.

- Although narrowing, the gender gap in access remains stubbornly wide.

- The spread of mobile devices is a positive trend, but its role as an enabler for the world's poorest women is not assured. In the lowest-income countries, progress on this front may even be moving in the opposite direction.

- The internet is facilitating people's management of their money and finances and their inclusion in the broader economy.

- Internet use is expanding financial opportunities for individuals, particularly in the developing world.

- Mobile connectivity is becoming a financial equaliser. In low-income countries, mobile connectivity is more important for financial inclusion than in high-income countries where people are more likely to perform such tasks on fixed connections.

- People are going online to prepare for the technology-intensive jobs of tomorrow.

- Millennials leverage the Internet more widely than others for immediate work purposes.

- Digital opportunities for other types of personal improvement are being widely adopted. Internet use is also helping people become more engaged citizens.

- Trust in the Internet is declining in a number of contexts – information put online by governments, non-governmental websites, and apps and information posted by individuals on social media. (Economist Intelligence Unit, 2020: 12)

Another way to track progress is through the eParticipation Index in the UN E-Government Survey.

The 2018 edition of the United Nations E-Government Survey (2018) revealed the following:

- E-government has been growing rapidly over the past 17 years since the first attempt of the United Nations to benchmark the state of e-government in 2001.

The 2018 Survey highlights a persistent positive global trend towards higher levels of e-government development. The average world E-Government Development Index (EGDI) has been increasing from 0.47 in 2014 to 0.55 in 2018 (pp. 84, 87).

- In the 'Very-High-EGDI' group, 67% of all countries are from Europe, followed by Asia (20%), Americas (8%) and Oceania (5%). In the 'High-EGDI' group, the leaders are Asia and Americas regions (33% and 31% respectively), followed by Europe (22%), Africa (11%), and Oceania (3%). In the 'Middle-EGDI' group, African countries comprise 50%… and Asia takes up to 20 % of the share in the group. No European country is in the Middle and Low EGDI-level groups. The majority of 15 countries in 'Low-EGDI' group are from Africa (87%) followed by 2 countries in Asia (13%). (p. 93)

Specific to eParticipation, the 2018 survey reported the following:

- Denmark, Finland, the Republic of Korea (henceforth, Korea) are ranked as global leaders on e-participation, while the Netherlands, Australia, Japan, New Zealand, the United Kingdom (UK), the United States, and Spain are following closely behind (p. 114).

- European countries contribute 70% to the group of 62 countries with very-high E-Participation Index (EPI) levels (despite accounting only for 22% of UN member states). Asia follows with 36% in the same 'very-high EPI' group (while comprising 24% of the 193 member states) (p. 117).

- In terms of the index subcomponents:

  ☐ E-information: Member states are sharing an increasing amount of information with their citizens, mostly in the education and health sectors and followed closely by other sectors (p. 118).

  ☐ E-consultation: All regions made progress in deploying e-consultation tools in 2018 compared to 2016. In Europe, all countries have online engagement tools or activities, 42 countries have social media networking tools, 39 countries have e-tools for public consultation or deliberation, and 40 countries made recent use of online consultation or deliberation (p. 119).

  ☐ E-decision-making remains a serious challenge (p. 120).

Europe's progress towards an inclusive digital society can be seen in the International Digital Economy and Society Index (I-DESI) (European Commission, 2018). I-DESI provides an overall assessment of where the 28 EU countries stand in comparison with 17 non-EU economies.[1] I-DESI measures connectivity, human capital (digital skills), the use of the internet by citizens, and the integration of technology and digital public services. Amongst the key results of the 2018 I-DESI report are the following. (i) EU member

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[1] The 17 non-EU countries are Australia, Brazil, Canada, Chile, China, Iceland, Israel, Japan, Mexico, New Zealand, Norway, Russia, Serbia, South, Switzerland, Turkey, and the United States.

states, on average, compare well with the non-EU countries, and the top EU countries are amongst the best performers globally: six EU Member States were amongst the top ten. (ii) Between 2013 and 2016, all EU member states made regular progress on the adoption and use of digital technologies. However, the EU as a whole has not managed to close the gap with the US, Korea, and Japan. Interestingly, and contrary the UN eGovernment Report, I-DESI states that e-government is the one dimension where EU member states performed on average below their 17 non-EU counterparts. Nine of the 17 non-EU countries, including Korea, the USA, and Japan) had higher scores in 2016 than the EU average.

According to the Asian Digital Transformation Index 2018, Asia is catching up with the West in building environments for technology-led change (Economist Intelligence Unit, 2018). The index measures digital infrastructure, human capital, and industry connectivity. The top 10 countries in the index are Singapore, Japan, Hong Kong, Korea, Taiwan, Malaysia, China, India, Thailand, and the Philippines.

The Association of Southeast Asian Nations (ASEAN) is also progressing towards the digital economy (Viet Nam News/Asia News Network, 2019). Southeast Asia's digital economy is projected to hit US$200 billion by 2025. Bain & Company (2018) reveals that the proportion of the digital economy in ASEAN's gross domestic product is 7%, compared to 16% in China, 27% in the EU-5 (France, Germany, Italy, Spain, and the UK) and 35% in the United States. Many believe that ASEAN has the potential to enter the top digital economies in the world by 2025.

Asia–Europe Meeting Cooperation on Three Issues

The challenge for policymakers and other stakeholders is how to work together using technology to create a more inclusive digital society.

While there is a wide range of digital inclusion issues that the Asia–Europe Meeting (ASEM) could cooperate on, this chapter proposes focusing on three areas: the future of work(ers), artificial intelligence in governance, and data protection and privacy.

ASEM on the Future of Work(ers)

Marr (2019) suggests the following five ways work will change in the future:

1.   Fluid gigs. Within an organisation, positions will be more fluid, and a strict organisational chart will likely be tossed in favour of more project-based teams.

2.   Decentralised workforces. Thanks to mobile technology and readily available internet access, remote workers are already common. Employees will not need to be in the same location.

3.   Motivation to work. People will need something more than a pay check for motivation to work. Many want to work for an organisation with a mission and purpose they believe in. They will also want different incentives, such as personal development opportunities, the latest technological gadgets to facilitate their work-from-anywhere ambitions, and more.

4.   Lifelong learning. Not only will employees want to learn throughout their careers but they will also need to learn new skills. Technology will continue to evolve the role humans play in the workforce, so everyone will be required to adapt their skills throughout their working lives.

5.   Technology will augment human jobs. Artificial intelligence algorithms and intelligent machines will be co-workers to humans. The human workforce will need to develop a level of comfort and acceptance for how man and machine can collaborate using the best that both bring to the workplace.

A *Business Insider* story, using employment projections and salary data from the US Bureau of Labor Statistics, identified the top 30 jobs in the US in the next decade (Kiersz and Hoff, 2019). Interestingly, the list is not dominated by 'knowledge workers'. Table 1 lists some of these jobs.

Table 1: Jobs of the Next Decade

Top 5 in Top 30 Jobs	Bottom 5 in Top 30 Jobs
1. Registered nurses	26. Plumbers, pipefitters, and steamfitters
2. Applications software developers	27. All other computer occupations
3. General and operations managers	28. Licensed practical and licensed vocational nurses
4. Financial managers	29. Computer user support specialists
5. Management analysts	30. Information security analysts

Source: Kiersz and Madison (2020).

The future of work(ers) is being shaped by two powerful forces: (i) automation and artificial intelligence, and (ii) the emergence of the gig economy.

Many fear that automation and artificial intelligence (AI) will displace workers. Two Oxford economists, Carl Frey and Michael Osborne, predict that 40% of all jobs (mainly repetitive, low-skilled work) will be lost to computers and robots in the next 20 years (Seager, 2016).

The jobs that will stay are those that involve complex social interactions, creative/artistic jobs, those involving autonomous object manipulation (the ability to pick up and move around different sized objects) and those that require attentive, human qualities. The Ford Foundation (n.d.) suggests that even if jobs would be lost, digital technologies will create new industries and new jobs. There is the potential to help increase human productivity as well as job quality, and also create job opportunities for people with disabilities.

The Asian Development Bank's 2018 *Asian Development Outlook* suggests cautious optimism on technology and jobs (ADB, 2018). The outlook recognises that repetitive, manual jobs may be lost to robots. However, it also finds that new technologies can generate employment by spurring demand and productivity. Digital technology is also seen as creating new industries (e.g. 3D printing of prosthetics). The Organisation for Economic Co-operation and Development's *Employment Outlook 2019* (OECD, 2019: 13) notes that 'there will be further churning of jobs – with new, different jobs replacing those that are destroyed – and this will result in structural change and new skills needs'. The challenge 'is to manage successfully the transition towards new opportunities for workers, industries and regions'.

Meanwhile, the International Labour Organization's Global Commission on the Future of Work calls for 'a human-centred agenda for the future of work' (ILO, 2019). Their recommendations are as follows:

- Investing in people's capabilities
    - ☐ Lifelong learning for all
    - ☐ Supporting people through transitions
    - ☐ A transformative agenda for gender equality
    - ☐ Strengthening social protection
- Investing in the institutions of work
    - ☐ Establishing a universal labour guarantee
    - ☐ Expanding time sovereignty
    - ☐ Reviving collective representation
    - ☐ Technology for decent work
- Investing in decent and sustainable work
    - ☐ Promoting investment in key areas for decent and sustainable work
    - ☐ Reshaping business incentive structures to encourage long-term investments in the real economy and develop supplementary indicators of progress towards well-being, environmental sustainability, and equality.

Investing in people's capability should be the priority of governments for creating an inclusive digital society. But in doing so, it is important to remember that 'skills policies often fail to reach those adults who are more at risk from the changes that lie ahead' (OECD, 2019: 15). Disadvantaged workers usually fail to identify relevant learning activities and/or lack time or money to train.

A bigger issue is that 'the voices of workers themselves are largely absent from the debates, decisions, and discussions that will shape their future' (Kinder, 2019). This affects the quality and effectiveness of policy. If workers are not part of the discussions, policymakers risk proposing non-responsive solutions. In addition, it is not only good training programmes that matter. Adequately preparing the most vulnerable workers for the future of work requires addressing inequality, power imbalances, and market failures.

In order to create an inclusive digital society, ASEM cooperation on implementing a 'human-centred agenda for the future of work' is recommended.

The second issue that must be considered in addressing the future of work(ers) is the emergence of the 'gig economy'. The gig economy is 'a free market system in which temporary positions are common and organisations contract with independent workers for short-term engagements' (Rouse, n.d.). Another definition is that it refers to the increasing use of 'digital platforms that allow freelancers to connect with individuals or businesses for short-term services or asset-sharing' (Mastercard and Kaiser Associates, 2019: 2). Globally, the gig economy has generated $204 billion in gross volume, with transportation-based services (e.g. ride-sharing) comprising 58% of this value in 2018 (Mastercard and Kaiser Associates, 2019: 2) Before the pandemic, global gig economy transactions were projected to grow by 17% compound annual growth rate (CAGR) with a gross volume of about $455 billion by 2023. This projected growth will be a result of evolving societal attitudes around peer-to-peer sharing and increasing digitisation rates in developing countries.

Gig economy workers (also platform economy workers) are contingent workers, freelance contractors who are not part of the traditional workforce (employees). Their work is divided into tasks rather than jobs. Many of them work online for companies who are not in the same country as they are. The top-five sources of gig tasks are the US, the UK, Canada, Australia, and India (Chen and Djankov, 2018). The top-five suppliers of gig workers are India, Bangladesh, Pakistan, the US, and the Philippines.

The gig economy has different manifestations in Europe and Asia. Studies of the gig economy in 14 EU member states reveal the following:

- Gig work is the main occupation for about 2% of the working population.
- It is a significant source of income (i.e. at least 25% of the average salary of a full-time worker) for 6%.
- Around 8% do gig work at least once a month. (Dazzi, 2019: 72).

The incidence and frequency of gig work vary, with the highest peaks in the UK and the lowest in Finland, Slovakia, and Hungary. In the Asia–Pacific region, a 2018 report reveals that 84% of hiring managers outsource to freelancers (SIA, 2018).

Gig work is increasingly important in ASEAN. In 2018, almost 75 million Indonesians were classified as informal workers (including those with casual and part-time jobs) (Sim and Xinghui, 2020). PayPal's 2018 Global Freelancer Insights Report states that at least 2% of the Philippines' population are freelancers (Hasnan, 2019). They reportedly make up almost 20% of the global remote workforce (Diesel, 2019). Filipinos engage in online work because they are '(b)urdened by employment woes such as infrastructural immobility and low wages' and they prefer gig work because it affords them autonomy, spatial flexibility, and the possibility for higher earnings (Soriano and Panaligan, 2019). Gig work is also popular in Malaysia, Viet Nam, and Singapore. In Malaysia, 26% of workers are freelance (Jenkins, 2019). In Viet Nam, 56.9% of the working population is self-employed. In Singapore, 9.3% of all employed residents in 2018 were 'own account' workers, with 8 out of 10 of them doing it as their primary job (Phua, 2020).

The key challenges facing gig economy workers include poor pay, although not for all jobs; lack of job security, as jobs can be terminated by platforms at will; and no skills or career development, as career paths are mostly non-existent (Souter, 2019). Perhaps the most significant challenge is that they are excluded from traditional social protection systems, such as unemployment benefits, sick pay, and pensions.

Gig economy workers in Europe enjoy better protection and working conditions. The European Parliament passed rules that grant new rights for workers on atypical contracts and in non-standard jobs (European Parliament, 2019). These include measures to protect workers by ensuring more transparent and predictable working conditions, free mandatory training, limits on working hours and the length of probationary periods, and preventing employers from stopping a worker from taking up another job outside of working hours.

In Southeast Asia, 'the rules on the safety of workers and operating regulations are often ever-changing or insubstantial as is the case in countries such as Thailand, Malaysia, Indonesia, and Viet Nam' (TechCollective, 2019).

These issues must be addressed and resolved if we are to have inclusive digital societies. In designing social protection for Asian gig workers, the following critical points should be acted upon:

- Closing the gap in population coverage and the adequacy of benefits. Coverage should be extended to Non-Standard Employment (NSE) workers, especially the self-employed and/or those working in the gig economy, who are often not covered by social protection schemes;

- Creating innovative policy and regulatory frameworks and ensure compliance. Policy innovations to enhance the coverage of social protection schemes for NSE workers are key to prepare social protection systems for future work, as will be regulatory frameworks that can adapt to cover NSE workers when they expand social insurance coverage and benefits.

- Designing sustainable financing mechanisms.

- Harnessing new technology to improve the delivery of social protection. New technology, including digital platforms and mobile services, can facilitate providing social protection to the different categories of NSE workers, whose key challenge is that they often have many different jobs, but are also occasionally unemployed. (Handayani, 2019)

A specific activity that ASEM could carry out for gig economy workers is to develop a voluntary (non-binding) code of rights that applies to both regions.

ASEM on Artificial Intelligence in Governance

Asia and Europe should also cooperate in promoting the use of Artificial Intelligence (AI) in governance. AI is increasingly being used by governments to make the delivery of public services, and their internal operations more effective and efficient, which could lead to improved citizens' experiences.

Amongst the citizen services that AI can enhance are:

- Public safety – includes predictive policing, border controls, and anti-terrorism systems;

- Public health – particularly in disease diagnosis, epidemic outbreak prediction, and precision healthcare;

- Social protection – predictive risk scoring tools to help social workers determine at-risk children and for the processing of claims;

- Environment sustainability – analysing satellite data to forecast global solar radiation in order to combat global warming; and

- Transport – managing traffic by implementing smarter traffic-light algorithms and real-time tracking for controlling higher and lower traffic patterns effectively. (Sharma, Yadav, and Chopra, 2020)

AI can also enhance governments' internal operations. It can simplify and speed up internal processes, increase productivity and reduce costs, and allow for better allocation of resources (Gov CIO, 2019). AI can also detect fraud in health insurance claims and improve the collection and processing of taxes.

AI also improves decision-making and makes possible automated decision-making – the process of deciding using algorithms without any human involvement (ICO, n.d.). Learning from historical data and seeking patterns in current data can help to make faster and better decisions on a massive scale. Automated decisions range from sorting résumés for job applications to estimating a person's risk of committing crimes to allocating social services.

If used properly, AI can enable more inclusive governance. It can be used by governments to reach out to marginalised groups and to improve relationships with them.

Already, AI is already being deployed by governments the world over. The 2019 Government AI Readiness Index reported that the national governments that are best able to take advantage of AI are those with strong economies, good governance, and innovative private sectors (Oxford Insights, 2019). Two Asian governments (Singapore and Japan) and six European governments (UK, Germany, Finland, Sweden, France, and Denmark) are amongst the top 10 in the index. European governments' use of AI ranges from Italy's RiskER (an automated system used to 'predict' the risk of hospitalisation in the Emilia-Romagna region by analysing over 500 demographic and health variables) to Denmark's automated process to decide on student stipends for higher education (Algorithm Watch, 2019). However, the two most deployed applications are AI for policing and social services.

While not as advanced as a region, Asia is seen as a 'credible frontrunner in AI globally' that 'could take the leadership position in the next decade' (MIT Technology Review, 2018).

Public support for government use of AI is also high in Asia. According to a 2018 survey of more than 14,000 internet users in over two dozen countries worldwide (Consultancy.asia, 2019):

> [N]ations in Asia are broadly the most supportive of AI in governance, with India, China, and Indonesia having the top three most supportive citizens, followed by Saudi Arabia and UAE. All of Singapore, Korea, Japan, Malaysia and Hong Kong hold relatively positive views, while Switzerland, Estonia, and Austria were among those least receptive.

Table 2: Artificial Intelligence in Policing and Social Services in Select European Countries

	Policing	Social Services
Denmark	Artificial intelligence (AI) is used to handle and make searchable different data sources, including document and case handling systems, investigation support systems, and forensic and mobile forensic systems.	Gladsaxe, a tracing model for children in vulnerable circumstances. It uses a points-based system to trace children with special needs from a very early stage, with parameters such as mental illness, unemployment, missing a doctor or dentist appointment, and divorce.
Finland		AI is used to analyse the anonymised health care and social care data of Espoo City's population and client data of early childhood education to screen service paths by grouping together risk factors that could lead to the need for child welfare services or child and youth psychiatry services.
Netherlands	*Criminaliteits Anticipatie Systeem* (Crime Anticipation System) predicts where and when crimes will take place by analysing a wide variety of data. The likelihood of these crimes occurring is indicated in a heat map.	
United Kingdom	A facial recognition system used by the police takes images from CCTV cameras to see if these appear on databases of individuals of interest to the police. When the system detects a match, police may apprehend the person for questioning, search, or arrest.	Town halls in England have started using automated decision-making systems to help determine how much money should be spent on each person, depending on their needs.
Sweden		Since 2017, the town of Trelleborg has automated parts of its decision-making on social benefits. New applications are automatically checked and cross-checked with other related databases (e.g. the tax agency and unit for housing support). A decision is automatically issued by the system.

Source: AlgorithWatch (2019).

Korea deployed AI in its successful effort to contain COVID-19 (ITU News, 2020). AI was used to develop a coronavirus testing kit in less than three weeks (instead of the usual two to three months). It was also used to improve diagnosis. AI was also used in China to fight COVID-19. Twenty AI systems were used in hundreds of hospitals in China to help diagnose thousands of cases (Wang, 2020). An example is Alibaba's AI system for diagnosing COVID-19 in CT scans of patients' chests with 96% accuracy in less than a minute (Greene, 2020). Wang (2020) reports that this technology was used in more than 160 hospitals in China to help them diagnose 340,000 cases.

Perhaps the most-watched AI initiative in Asia is China's (national) social credit system. Its main purpose is 'to monitor and assess each group's trustworthiness, particularly as it relates to following laws and other rules' (Koty, 2019). As envisioned, there will be one social credit system for citizens, one for businesses and other organisations, and one for government officials. For citizen rankings, the system will collect, aggregate, and analyse data from online payment providers and scores given by neighbourhoods or companies. Businesses will be assessed on regulatory and compliance criteria, including paying taxes on time, holding requisite licenses, meeting product quality standards, and fulfilling environmental protection requirements. Government officials will be assessed on criteria such as the extent to which they carry out orders from the central government.

The use of AI by governments is not unproblematic. Scholars argue that algorithms are shaped by interests, power, and resistance (Katzenbach and Ulbricht, 2019). AI is not neutral – it contributes to re-organising and shifting social interactions and structures. The two main issues in using AI in government are algorithmic bias and the absence of policy and legal frameworks (Snow, 2019).

Algorithmic bias can undermine the use of AI in good governance. An algorithm is 'a set of instructions for how a computer should accomplish a particular task' (Caplan et al., 2019). The advantage of relying on algorithms for problem solving and decision making is that they 'are able to process a far greater range of inputs and variables to make decisions, and can do so with speed and reliability that far exceed human capabilities' (Kirkpatrick, 2016). Algorithmic bias occurs when human prejudice and partiality are incorporated in the design. Consequently, discrimination is embedded into the model. As noted by Knight (2017): 'If the bias lurking inside the algorithms … goes unrecognized and unchecked, it could have serious negative consequences, especially for poorer communities and minorities'.

Algorithm bias can lead to two types of harm, allocative harm and representational harm. Allocative harm occurs when the algorithm apportions or withholds certain opportunities or resources based on prejudiced assumptions. An example is a bank loan risk assessment algorithm that systematically denies loan applications to women. Representational harm can 'occur when systems reinforce the subordination of some groups along the lines of identity' (Machines Gone Wrong, n.d.). In this instance, technology reinforces stereotypes.

A solution to algorithmic bias is algorithmic accountability, 'the process of assigning responsibility for harm when algorithmic decision-making results in discriminatory and inequitable outcomes' (Caplan et al., 2019: 4). There are three levels of algorithmic accountability:

- Transparency with respect to data and algorithms;

- Qualified transparency, where independent inspectors evaluate the algorithm; and

- Ethical and social responsibility for the discriminatory impacts of algorithms. (Dickey, 2017)

The concerns regarding algorithmic bias and algorithmic accountability have given rise to an initiative called 'Fairness, Accountability and Transparency in Machine Learning'. In 2016, a group of computer scientists, developers, and researchers released five guiding principles for accountable algorithms (World Wide Web Foundation, 2017). The principles aim to help developers design and implement algorithmic systems in publicly accountable ways. The five principles are:

- Fairness – ensure that algorithmic decisions do not create discriminatory or unjust impacts when comparing across different demographics.

- Explainability – ensure that algorithmic decisions as well as any data driving those decisions can be explained to end users and other stakeholders in non-technical terms.

- Auditability – enable interested third parties to probe, understand, and review the behaviour of the algorithm through the disclosure of information that enables monitoring, checking, or criticism, including through the provision of detailed documentation, technically-suitable application programming interfaces and permissive terms of use.

- Responsibility – make available externally visible avenues of redress for adverse individual or societal effects of an algorithmic decision system, and designate an internal role for the person who is responsible for the timely remedy of such issues.

- Accuracy – identify, log, and articulate sources of error and uncertainty throughout the algorithm and its data sources so that expected and worst-case implications can be understood and inform mitigation procedures. (World Wide Web Foundation, 2017: 11)

The European Union is developing new rules and regulations on AI (Walch, 2020). For instance, the European Commission White Paper on Artificial Intelligence proposes the following:

- Pursue a uniform approach to AI across the EU in order to avoid divergent member state requirements forming barriers to the single market.

- Take a risk-based, sector-specific approach to regulating AI.

- Identify in advance high-risk sectors and applications, including facial recognition software.

- Impose new regulatory requirements and prior assessments to ensure that high-risk AI systems conform to requirements for safety, fairness, and data protection before they are released onto the market.

- Use access to the huge European market as a lever to spread the EU's approach to AI regulation across the globe. (MacCarthy and Propp, 2020)

At the national level, France has laws that deal with algorithm transparency and automated decision making (AlgorithmWatch, 2019: 68–69). The *Conseil d'Etat*, France's supreme court for administrative matters, in June 2018, 'ruled that a decision based solely on an algorithmic system could only be legal if the algorithm and its inner workings could be explained entirely to the person affected by the decision' (AlgorithmWatch, 2019: 69).

ASEM could work towards a harmonised AI governance and legal framework for Asia and Europe. This could include the following:

- Increasing algorithmic literacy in order to increase the ability of citizens, organisations, and government officials in understanding how AI systems work so that they can demand AI accountability.

- Creating mechanisms and processes to involve all stakeholders in the formulation and implementation of rules regarding public sector use of AI.

- Evolve a framework where the rights and legal protection of citizens, businesses, and other stakeholders are promoted. (European Parliamentary Research Service, 2019: 69–75)

ASEM on Data Protection and Privacy

The global pandemic has reignited the debate on data protection and privacy.

Some suggest that the success of some Asian countries in using digital technology to control the spread of the coronavirus has convinced many that 'less data privacy, not more, may be what's best for public health' (Meyer, 2020).

An alternative view is exemplified by the joint statement of the Chair of the Committee of Convention 108 and the Data Protection Commissioner of the Council of Europe: 'States have to address the threat resulting from the COVID-19 pandemic in respect of democracy, rule of law and human rights, including the rights to privacy and data

protection' (Pierucci and Walters, 2020). The Philippines' National Privacy Commission has issued a resolution along the same vein: 'even in times of calamity or a state of public health emergency, rules on patient privacy, the confidentiality of health records, medical ethics, and data subjects' rights remain in effect and upholding them equate to protecting lives' (National Privacy Commission, 2020).

There are fears that the privacy-eroding technologies being used in the fight against the virus may outlive it. As noted by Harrari (2020):

> If we are not careful, the epidemic might nevertheless mark an important watershed in the history of surveillance. Not only because it might normalize the deployment of mass surveillance tools in countries that have so far rejected them, but even more so because it signifies a dramatic transition from 'over the skin' to 'under the skin' surveillance.

Harrari is referring to surveillance through data trails – monitoring via information generated by users when they use ICT. Where before surveillance meant 'close observation of suspected persons', today's technology allows for the surveillance of 'contexts (geographical places, spaces, particular time periods, networks, systems and categories of person)' (Marx, 2002: 10). Privacy is 'strongly linked to the materiality and socio-technology of its environment' (Matzner and Ochs, 2019). Legislation on data privacy (the right of an individual to have some control over how his/her personal information is collected and used) and data protection (the mechanism to prevent unauthorised use and access of personal data) emerged in the 1960s as a result of the increasing use of computers (Solove, 2006). Thus, it is only to be expected that the extensive use of digital technologies during the pandemic would trigger data protection and privacy concerns.

The Internet has become an important lifeline during the pandemic. It has enabled more people to work from home. However, this new work arrangement has also increased the possibility of 'the largest cyberattack in HISTORY (emphasis in the original)' (McBridev, 2020). It has also been observed that the pandemic is deepening users' immersion in social media (Fischer, 2020). This means more information about users is being generated and harvested by social media firms.

Governments are using digital technology that compromises privacy in fighting the corona virus. In China, various cities and provinces have used coloured QR codes that are downloaded on mobile phones to track people's movements and determine their health status (AFP–JIJI, 2020). Red, yellow, and green determine whether a person can enter a restaurant or board a train, for example. Russia uses CCTV cameras with facial recognition technology to enforce quarantine restrictions (Reevell, 2020). It is reported that the system can complete a search in under 10 seconds and can identify people who are wearing face masks (through their eye line). The Korean government has a system that tracks the

movement of an individual through credit card transactions, smartphone location data, and CCTV video (Louis, 2020). Korean health authorities issue an alert when a person tests positive. The alert includes a detailed history of an infected person's movements, and community members can use this to determine if they have come into contact with that person. While the infected person's name is not made public, the information released is specific enough that in some instances it has been easy to identify the infected person with infection – so much so that in March, the BBC reported that in Korea 'there is as much fear of social stigma (associated with testing positive) as of illness' (Kim, 2020).

Of course, not all digital tracking systems compromise privacy. Singapore's Trace-Together contact tracing app is an example of a privacy-protecting contact tracing app (HealthHub, n.d.). It works by exchanging Bluetooth signals amongst mobile phones that are in close proximity. Records of these encounters are stored in users' phones and are not sent to government authorities. The Pan-European Privacy-Preserving Proximity Tracing (PEPP-PT), as its name suggests, was developed by European scientists to track the spread of COVID-19 without derogating privacy (ERCIM, 2020). PEPP-PT is compliant with the EU's General Data Protection Regulation (GDPR) and interoperable across the EU. Another European initiative, Decentralized Privacy-Preserving Proximity Tracing, aims 'to provide maximum security and privacy for the end users' (Ruef, 2020).

During the pandemic, mobile phones were used as an 'electronic fence' to detect quarantine violators. Companies can use software to monitor employees working from home and students can be surveilled through exam monitoring software. Mark Surman, an executive director of Mozilla observed:

> People are coming out with opportunistic, unregulated Band-aids (that) … aren't going to fall under the oversight of government. If a market emerges for those, we may end up with a creeping low-level increase of surveillance that we need to find a way to keep tabs on and rope in. (Ng, 2020)

Even those worried about the privacy threats of digital surveillance during emergencies are not suggesting that these should not be used by governments. They recognise that public policy in health emergencies should balance health, privacy, and economic concerns. They recommend that to strike the right balance, decision makers should consider the following:

- Surveillance measures must be strictly proportionate, fully transparent, and reversible.
- Efficiency should not be the only consideration when using surveillance systems.
- Surveillance technology that enables a high level of social control may be applied unevenly, in a discriminatory manner, and for purposes completely unrelated to containing the virus. (Ghosh, Abecassis, Loveridge, 2020)

Another recommended action is for countries to create a legal framework for digital rights to prevent the erosion of privacy in a pandemic. Proponents believe that legislating digital rights is important in ensuring that inroads against privacy during an emergency are minimised and are reversible.

Moving forward, codified digital rights should be a feature of post-pandemic, inclusive digital societies in Asia and Europe. In the post-pandemic world, the march of surveillance capitalism – commodifying personal data for profit-making – will not slow down. In fact, the expected increase in the use of social media and electronic marketplaces will generate even more data – data that reveal more about the users of these platforms and that can be harvested and processed by platform owners for profit-making. This means that inter-governmental initiatives on data protection and privacy should also continue, if not intensify.

A good foundation has already been laid in the EU's GDPR, the 'gold standard' for data privacy protection. But the GDPR poses challenges for governments and corporations in Asia. Countries approach 'privacy', 'security', 'data protection' and even 'rights' in different ways (Consumers International, n.d.). Furthermore, GDPR requires a significantly higher level of compliance activity compared with existing privacy requirements in developing Asia. For corporations, particularly those operating in jurisdictions without privacy laws, meeting GDPR requirements will not be easy (Shatter and Lam, 2019). Some of them will need to rethink their business models based on broad consent to collecting a wide range of personal data. Even corporations operating in jurisdictions with data privacy laws may still need to update their data practices to be rated as 'adequate' by the EU for data transfer purposes. Keeping data for longer than required may be costly and complex to implement for many Asian companies. Another key challenge, particularly for micro, small, and medium enterprises is keeping personal data secure. To facilitate more business between the two regions, ASEM could develop a programme to help Asian businesses to comply with the GDPR.

ASEAN's initiative on Data Protection and Privacy is a positive development in creating an environment that protects and promote data protection and privacy. The foundational documents of this initiative are the ASEAN Framework On Personal Data Protection (November 2016) and the Framework on Digital Data Governance (December 2018). The ASEAN Framework On on Personal Data Protection aims to "strengthen the protection of personal data in ASEAN and to facilitate cooperation amongst the Participants, with a view to contributee to the promotion and growth of regional and global trade and the flow of information" (ASEAN TELMINelMin, 2016). It sets out the following Personal Data Protection Principles: (i) consent, notification, and purpose; (ii) accuracy of personal data; (iii) security safeguards; (iv) transfer to another country or territory; (v) retention; (vi) accountability; and (vii) access and correction.

The ASEAN Framework on Digital Data Governance 'sets out the strategic priorities, principles and initiatives to guide ASEAN Member States in their policy and regulatory approaches towards digital data governance (which include both personal and non-personal data) in the digital economy' (ASEAN TELMIN, 2018). It identifies four strategic priorities, namely: (i) data life cycle and ecosystem; (ii) cross-border data flows; (iii) digitalisation and emerging technologies; and (iv) legal, regulatory, and policy issues. The four initiatives to support these four strategic priorities are: (i) ASEAN Data Classification Framework; (ii) ASEAN Cross Border Data Flows Mechanism; (iii) ASEAN Digital Innovation Forum; and (iv) ASEAN Data Protection and Privacy Forum.

Even as the pandemic prevented face-to-face meetings of relevant ASEAN task groups, work on these initiatives continued through online meetings and exchange of emails.

ASEM could build on top of this initiative by identifying activities/projects that would help create a harmonised environment for data protection and privacy and increase greater economic activity between the two areas.

An Inclusive Future

Creating inclusive digital societies in Asia and Europe will require a lot of effort and creativity from governments, corporations, and citizens in the two regions.

This chapter suggests that ASEM consider cooperation in the following three areas:

- Future of Work(ers)
  - ☐ ASEM cooperation in implementing a 'human-centred agenda for the future of work' is recommended.
  - ☐ ASEM could consider developing a voluntary (non-binding) code of rights for gig economy workers that applies to both regions.
- AI in Governance
  - ☐ ASEM could work towards a harmonised AI governance and legal framework for Asia and Europe, focused on:
    - ☐ Increasing algorithmic literacy in order to increase the ability of citizens, organisations, and even government officials for understanding how AI systems work so that they can demand AI accountability;
    - ☐ Creating mechanisms and processes to involve all stakeholders in the formulation and implementation of rules regarding the public sector use of AI; and,
    - ☐ Evolving a framework where the rights and legal protection of citizens, businesses, and other stakeholders are promoted.

- Data Protection and Privacy
    - ☐   ASEM cooperation in creating a harmonised environment for data protection and privacy in the two areas.
    - ☐   ASEM cooperation in helping Asian companies comply with the GDPR.

As ASEM Partner transform their societies into digital societies, the above recommendations can be part of the blueprint of ASEM connectivity in future. The 13th ASEM Summit (ASEM13) in 2021 can help Asia and Europe to address these changes and challenges together.

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