Standardization in Developing Critical Technology: A Focus on Asia and the Pacific

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Digital Transformation in Asia Pacific

1. Accelerated by COVID-19, Asia and the Pacific is amid rapid digital transformation.
    a. Shifting social and economic activities online has resulted in a significant increase in data traffic in Asia Pacific (GSMA, 2020).
    b. Platform businesses in Southeast Asia experienced a surge in new users in 2020.
    c. And more than one in every three digital service consumers started using a new digital service due to COVID-19.
2. Governments across Asia and the Pacific have accelerated their use of online services in response to Covid-19.

Digital technology will have a significant part to play in Asia Pacific's post pandemic turn towards Industry 4.0 and a Digital Societies (GSMA, 2020).

Digital transformation can potentially propel Asia and the Pacific toward achieving the SDGs, but it is not without the risk of amplifying inequalities.

Digital Transformation is Involving Critical Technologies

Australian Government, Department of the Prime-Minster and Cabinet:

"Critical technologies are current and emerging technologies with the capacity to significantly enhance, or pose risk to, our national interests (economic prosperity, social cohesion and/or national security)."

The Growth of AI, Facial Recognition and Surveillance Technologies

1. A survey of 176 countries found that (Feldstein, 2019)
    a. AI was being used actively for surveillance purposes by seventy-five out of 176 countries surveyed globally.
    b. Fifty-six countries were using sensors that transmit real-time data to facilitate service delivery, city management, and public safety.
    c. Sixty-four countries of the 176 surveyed countries are using facial recognition technology.

Covid-19 and Critical Technologies

1. COVID-19 has provided various new use cases for governments
    a. E.g.:. technology that restricts individuals at a high risk of been exposed to COVID-19 from entering certain buildings, AI systems in several cities in the region that identify those not wearing a mask.
    b. In Singapore, the city-state's government led the development of a system that traces the movement of COVID-19 patients using facial recognition and public transportation records.

These use cases demonstrate how critical technologies can bring enormous value, but they also come with potentially adverse and unintended consequences.

Critical Technologies are not Necessarily Unbiased

1. Critical Technologies are vulnerable to various biases such as gender.
    a. Some private sector companies have discontinued the use of a recruiting algorithm that was unfairly discriminating against women.
2. AI and facial recognition algorithms can also be subject to unconscious bias in terms of race and ethnicity.
    a. Researchers from MIT and Stanford University found that three commercial facial analysis programmes from major technology companies demonstrated both skin-type and gender biases.

Digital Transformation Could Amplify Risks

1. The transformation towards industry 4.0 and the growth of smart cities in Asia Pacific is potentially amplifying the challenge of biases in critical technologies.
2. The increasing reliance on big data and the conception of big data as presenting reality, neglects how inequities between genders, and social groups could be embedded in the data and reinforced by algorithms.

Challenges to Governance of Critical Technology

1. Existing approaches to governance are characterised by a lack of regulation and preparedness for the long-term consequences of critical technologies.
2. Critical Technologies present a range of challenges to effective governance:
    a. Low rates of AI literacy among policy and lawmakers could lead to ineffective or potentially detrimental regulations.
    b. Privacy issues are also a primary concern. The issue of data-sharing and access is particularly pronounced in law enforcement, especially when it comes to technologies such as facial recognition.
    c. Decisions by autonomous systems present challenges to assigning accountability.
    d. Emerging technologies, such as AI and blockchain, transcend national boundaries, requiring regional or even global governance solutions.
3. To address these gaps, new and innovative forms of governance and regulation are required to maximize the benefits and avoid the potential risks of critical technologies.

The World Economic Forum (2020) argues that emerging critical technologies require “new principles, rules and protocols that promote innovation while mitigating social costs.” and a “faster, more agile approach to governance”.

ITU Project Supported By DFAT: Enhancing the Development of Standards and Frameworks for Critical Technologies in Southeast

1. The project deploys a multi-stakeholder consultative and capacity development approach, particularly focusing on female stakeholders.
2. The project further aims to build awareness among policy and lawmakers of the gendered dimension of critical technology and the importance of effective governance.
3. Ultimately leading to the development of standards, frameworks, policies, and initiatives for implementation at national and regional levels to mitigate biases, build trust and create inclusive economies in Southeast Asia.

Establishing a Policy Dialogue

1. It is crucial that lawmakers and regulators are aware of the fundamentals of critical technologies and exposed both to positive examples and potential problems in order to form balanced views.

   How can critical technology literacy among policy makers be raised? How can academia, civil society and private sector aid this process?

2. Some governments in other parts of the world have already progressed in the establishment of guidelines, ethical frameworks and principles for the use of critical technologies.

   What can we learn from these examples? How can the development of ethical guidelines, frameworks and principles in Asia and the Pacific be accelerated? How can the guidelines and ethical frameworks enable inclusiveness?

Establishing a Policy Dialogue

3. Self-regulatory best practices, consumer-focused strategies, and impact audits of their AI are crucial in order to promote the fair and ethical deployment of these technologies (Lee, Resnick, & Barton, 2019).

   How can the private sector be incentivised to practice self-regulation and consumer focused practices? What role should law-makers play in creating these incentive structures?

4. Resolving the challenges and realizing the benefits of critical technologies requires engagement with a wide range of stakeholders from policy makers and technology companies to civil society groups (Lee et al., 2019).

   How can various stakeholders be brought together? On what level can platforms for dialogue and discussion be established to facilitate this process?

Thank You!