

IGF 2018 Messages - Emerging Technologies

Overarching messages

- The development and adoption of new technologies is taking place at a pace never seen before. Societies, policymakers, and businesses are confronted with the complex issues that come with these technologies. Artificial Intelligence, 5G, blockchain, and the Internet of Things have the potential to bring social, cultural, and economic benefits to all. But the same decentralized and autonomous independence features that enable such progress also create issues around the governance of such systems. For emerging technologies to be at the service of mankind and foster human-centered forms of digitalization, they must be guided by well-informed, sound, and sustainable policies.
- As with many other technologies, emerging technologies will also rely heavily on connectivity. Having parts of the world that lack basic connectivity will hinder the ability of these technologies to grow and expand. A robust, far-reaching infrastructure can be achieved through strong investments, and is needed moving forward.
- There are various concerns associated with the deployment of emerging technologies such as ethical issues, security and making new technologies citizen-centric. Taking artificial intelligence (AI) as an example, one starting point is to bring more transparency into AI systems, so that non-specialists can understand how they work and can participate in their development and deployment. There was agreement in the room to follow a global approach based on the universal declaration of human rights as globally accepted values and standards in the use of emerging technologies.
- There is no way that we can preempt all externalities that will come with the advent of new technologies. Individual choices will be relevant in the adoption of new technologies. Some people will prefer to use old technologies regardless of how new technologies will improve our lives. However, in the long run, societies will move into the same direction and adopt emerging technologies. The rapid advancement of emerging technologies also presents issues regarding regulation. The technology is outpacing the capacity of governments to create policies to adapt to the new technological ecosystem. Furthermore, on a global scale, multinational ICT corporations that are too big to be regulated within a single jurisdictional framework necessitate questions regarding leadership: Who gets to define the rules?
- Education, training, and capacity-building can play an important role in promoting new and better use of emerging technologies. Similarly, they can help address some of the fear about emerging technologies. Capacity-building can help develop technical skills and improve policy-making, especially in emerging economies.

Artificial Intelligence

- There is a need for a multi-stakeholder, inclusive, and open mechanism to address some key issues surrounding Artificial Intelligence (AI). AI and other emerging technologies need to be developed in ways that are individual-centric and considerate in regard to human rights issues. It is necessary to harness the development of AI technologies in a way that it contributes to the achievement of democracy, peace and the Sustainable Development Goals, avoids exacerbating existing inequalities and increasing the technical and digital divides.

- The advancement of machine learning is dependent on the amount of the dataset it utilizes. Machine learning is only as good as the data set that is completed. As such, limiting the availability of anonymized data is ultimately detrimental to the progress of AI and to society at large which can lead to bias and discrimination.
- AI has the potential to moderate harmful content on the Internet. For instance, due to AI's ability to process vast amounts of data at high speed, it can be used to fact-check news articles, identify disinformation, and eliminate it before it spreads. However, the idea of combating content regarding hate speech and extremist ideologies has been met with opposition due to the fact that, even for humans, defining these terms is a contentious issue. This could lead to labeling opposition voices as hate speech and eradicating their platform, leading to corruption.

Blockchain and Cryptocurrency

- Blockchain is seen as a technology that can eliminate the cyber-physical barriers. For example, with the availability of cryptocurrencies, small scale businesses can be empowered with cryptolending instead of making actual trips to financial institutions.
- Blockchain can help solve the problems of the most vulnerable people in the world: refugees; migrants; children; and victims of human trafficking. It also has the potential to speed up processes in favor of humanitarian activity such as the diversion of funds collected to mitigate the humanitarian crisis; the delivery of benefits; avoiding duplicity; and Internet access, among others. There are applications used to provide identity documents to refugees and asylees, advance financial inclusion, and support efforts to respond to climate change, among others. Many such projects have received significant attention and funding.
- Governments play a critical role in the administration of cryptocurrencies. There is a tendency for developing countries to have limited support for cryptocurrencies, leading to a hindrance in its prevalence. Some countries' support for Blockchain technologies, while still banning cryptocurrencies, means that the technology is not able to function at its potential. In connection, the community should be careful not to introduce new divides between north-south in blockchain.
- Blockchain can be used to further government transparency and accountability due to its public and permanent nature. There was broad support for the idea that blockchain can be used to track government transactions to eradicate corrupt practices. However, it was also pointed out that current blockchain systems are still heavily moderated, and don't have the transparency yet that the technology promises.

Ethical issues

- The discussion on the impact of artificial intelligence and ethical considerations triggers reflections on the relationship between law and ethics. Ethics is usually at the basis of law; some ethical rules are in fact codified into law. However, ethics goes much beyond law in organising a wide range of family and community relations. Further, ethics is not a substitute for law. This complex interplay between law and ethics has implications for many issues related to AI technology.
- Transparency is only one tool, and is not a value in itself. What is implied behind transparency may not be clear to all involved. Transparency is the very first step towards a more complex set of rules and norms that will make AI more easily understood and efficient.
- Ethics differ across cultures and geographies, but if we build technologies with a global approach, developers may need a single form of guidance. In that regard, new technologies need to be trusted and be "trustworthy". Building trust requires various steps such as protecting privacy and personal data, enhancing cybersecurity, being transparent about problems, respecting human rights, giving users alternatives if they find one service or application unsatisfactory, design for safety, and design for diversity.
- Open data and open government policies contribute to more transparent governance. One example of increased transparency is making algorithms more open and public. A growing number of algorithms are taking decisions or making pivotal recommendations in our daily

lives. People who develop these algorithms need guidance as well. There is a need to ensure that these algorithms can be held accountable by making them more transparent, fair and inclusive. For instance, speech recognition systems need to work equally well across different language, age, and gender groups.

- People are the ones who actually make decisions in the algorithms of new technologies. Ethics cannot be enshrined in software code. The code is an approximation of perceived reality of the coder. We should be looking at the people to make sure that they are the responsible and accountable parties. Unlike a human judge applying a legal rule, machines cannot contextualise issues.

**For any questions or comments regarding the IGF 2018 Messages, please write to igf@un.org.*