

Executive summary

Technology increasingly permeates every aspect of our lives, from the use of big data to information and communication technologies (ICTs) to artificial intelligence (AI) and automation. These developments are often framed around issues such as efficiency, speed and innovation, but for minorities, indigenous peoples and other marginalized groups there are often very different forces at play – the replication of existing patterns of exclusion in new forms.

In a context where discrimination against minorities and indigenous peoples remains strong, technologies alone are not enough to deliver positive change. Indeed, without the appropriate checks and protections in place, they may side-line these communities even further. Consequently, there needs to be a renewed focus on human rights in the development, dissemination and use of technologies, and a greater awareness that, alongside their benefits, they have the potential to cause lasting harm.

While a central aim of the Sustainable Development Goals (SDGs) was to reduce social inequalities within societies, the outbreak of the Covid-19 pandemic has highlighted how profound gaps remain for minorities and indigenous peoples in many countries. Though there is much hope and uncertainty around the possibilities of ‘track and trace’ mobile applications and other emerging technologies to resolve the crisis, without a firm commitment to social justice and universal access it is likely that many will be denied their benefits.

With minorities and indigenous peoples disproportionately represented among the world’s poor, it is not surprising that poverty is itself a major barrier to these groups accessing mobile phones, computers and other technologies. Besides the issue of affordability, there may be physical and geographic constraints, particularly for communities in rural or remote locations. In addition, other hurdles such as limited

information in minority or indigenous languages and scripts can compound lack of access. For marginalized groups within minority and indigenous communities, such as persons with disabilities, further significant issues arise – for instance, whether websites are accessible and compatible with assistive technologies.

The need for a more holistic approach to technology is therefore more urgent than ever, with an emphasis not only on affordable pricing and accessible delivery, but also culturally appropriate and inclusive design. Importantly, an inclusive approach to technology should translate not only to equitable access as users, but also meaningful participation in technology and software development. At present, however, minority and indigenous employment in sectors such as computing remains extremely low, particularly at levels that influence design choices and decision making. This poses a fundamental challenge to the creation of more diversity friendly technologies downstream.

Without concerted efforts to ensure they have positive outcomes for minorities and indigenous peoples, technologies could instead reinforce their exclusion. This can happen as an unintended consequence of systems that rely on data that is itself informed by bias. In the United States (US) and elsewhere, for example, the use of automated recruitment systems by corporations has typically identified potential new employees based on profiles of previous successful applicants, with the result that those groups favoured in the past – in particular, men and white Americans rather than women and members of ethnic minorities – continue to receive preference.

When technologies are actively mobilized to target certain communities, however, there is the possibility of systematic human rights violations on a scale rarely realized until now. In Xinjiang, the Chinese government has created a vast panopticon of surveillance, spanning DNA tests, virtual checkpoints and online monitoring to control and censor the millions of Uyghur Muslims in the region. Though this represents one of the most extreme examples of how technologies can be coopted to violate the human rights of marginalized communities en masse, many of these tools are being used in different forms elsewhere. In Europe, for instance, migration management in some countries has been given over to various technological 'solutions' such as facial scanning, spy drones and even lie detectors – an approach widely criticized for its dubious science as well as its disregard for human rights.

From biometric databanks to CCTV, surveillance is becoming more commonplace across the world, with deeply troubling implications for individual privacy, freedom of movement and other rights. Even when packaged innocuously, as in the growing trend towards 'smart cities' and the use of big data to achieve more efficient urban planning, some groups risk becoming even more marginalized. Minorities and indigenous peoples, who for centuries have contended with the negative impacts of technologies imposed on them by colonial governments, repressive regimes and global corporations, have good reason to be wary of the supposed benefits that technological change can bring.

This does not, however, mean that technological development is automatically against the interests of these communities. While the values and traditions of indigenous peoples in particular are often assumed to be in opposition to technology, there is a long history of indigenous invention and innovation that is still urgently relevant to some of today's most pressing challenges, including climate change. There are also many examples of how minority and indigenous communities, if given the chance to access new technologies and the training to use them on their own terms, have successfully exploited them to achieve significant social gains.

Indeed, some of the most inspiring examples of technology-driven activism are being pioneered by members of minority and indigenous communities. From citizen-led monitoring and reporting of human rights abuses in conflict zones to digital mapping of logging in communal forests, there is considerable opportunity for technologies to support land rights, document oppression and persecution, secure justice and empower community members. For this potential to be realized, though, an enabling and inclusive human rights environment must be in place: without this, minorities and indigenous peoples will be largely, once more, left behind.

The issues, then, extend far beyond the relative value of a particular technology. Many, if not most, have the capacity to deliver positive or negative outcomes, depending on how they are managed and used. This is illustrated clearly by the internet, where online hate speech against migrants, minorities and other stigmatized groups is commonplace and has been used to incite hatred and violence against them, up to and including genocide, as was evident in the situation in Myanmar affecting the Rohingya. But while social media platforms such as Twitter and Facebook have regularly been exploited by nationalist, extremist and far-right groups to spread hate, they have also served as a platform where some of the most transformative civil rights movements in recent years have mobilized. This is where the enormously influential #BlackLivesMatter protests first flourished, for instance, not only swelling the number of people engaged in its work but also laying the foundation for a far more diverse activism free from traditional organizational hierarchies.

There is widespread agreement that the coming years will be profoundly shaped by AI, automation and other innovations. What sort of future they usher in, however, depends on the decisions we make now. Human rights, equality and justice, must be at the heart of how we manage and develop these technologies. For minorities, indigenous peoples and other marginalized groups, the potential to achieve greater equality and recognition using technologies could be huge – but only if they are able to participate fully in every stage of that process themselves, from initial concept development to being full users and controllers of technology, data and online spaces.