



Human

Vulnerability in

the Metaverse

Executive Summary

There is much hype and enthusiasm around the development of the metaverse. An interoperable, persistent, and synchronous network of 3D virtual, real-time rendered worlds, the metaverse is expected to be so real and immersive that it will blur the line between our physical and virtual lives. Technology companies promise that it will bring about a newly empowered, just, and equitable society, by removing barriers to social participation and enhancing human capabilities. But despite significant investment, the metaverse remains an intangible concept for many people – one that could enable unknown and unpredictable behaviours and vulnerabilities. Now is the time,

therefore, to consider what the metaverse should be, how significant it might become, and how it will affect both the individual and society.

This working paper was written to assess the impact of the metaverse on human vulnerability. The paper questions why the metaverse is being developed, how it will be created and accessed, who will be creating it, and how it is defined. It also explores the nuances and definitions of vulnerability and positions human vulnerability within the context of the metaverse to consider its impact.

Key Findings

- By helping users satisfy their human needs and exercise fundamental rights, the metaverse could have a positive impact on the daily lives of people who may experience vulnerability, such as people who are physically disabled in the offline world. It could also be a valuable tool for medicine, science, education, art, and social movement.
- But social inequalities would be reinforced and accelerated by the metaverse, due to the digital divide. Certain categories of people – especially those in the Global South, rural areas, and many women – will have limited opportunity to become meta-users because of the cost of the hardware and software required to access it, or indeed because they have no access to the internet at all.
- Individuals who are from a marginalized group in the offline world are likely to face the same subordination in the metaverse, if they choose an avatar that reflects their personal characteristics. But equally, it will be problematic if an individual chooses an avatar that has different physical characteristics to their own, in order to conform to socially accepted views of bodily appearance and privilege. Although less likely to experience social subordination, such 'conformist' avatars could erode personal autonomy, self-determination, and diversity in society.
- The metaverse will create a new channel for abuse, including sexual assault. It is recognized that technology can facilitate abuse, aggravate harm caused to victims, allow for the commission of new forms of violence, and enable abuse. It is likely that the metaverse will bring image-based abuse to the next level, given the embodied and hyper-realistic nature of its content. Similarly, sexual misconduct in the metaverse will cause more trauma than its occurrence on existing online platforms. Moreover, there is currently no definition for sexual offences in the metaverse, and therefore a lack of clarity in the law for dealing with it.
- The metaverse could turn into a new space for social marginalization, subordination, and oppression for certain categories of people. Consequently, vulnerable groups will withdraw or disengage from it, which will augment a lack of diversity in the virtual world.
- Governments are not protecting the freedoms and equality of its citizens in the metaverse but are shifting the burden of responsibility to technology companies, based on a 'laissez-faire' attitude. Meta-users will therefore become dependent on companies for removing or mitigating their vulnerabilities. They may accept unfair or undesirable terms and conditions, or choices that are favourable to the technology companies, in order to enjoy the virtual world. In addition, some users may become vulnerable to changes in the service, if they depend on its existence to participate in society; for example, people with physical disabilities who might rely on the metaverse to move around.
- Meta-users will be vulnerable to mental manipulation based on AI driven emotional recognition, such as eye tracking or behavioural surveillance. This would especially impact children, people with cognitive impairments and those with psychological vulnerabilities.

Conclusion and Recommendations

We believe a measured approach is needed when considering the potential impact of the forthcoming metaverse, rather than the unconditional enthusiasm displayed by its creators. This is not to deny the potential advantages of the new technology, but rather to caution against the new risk of meta-vulnerability. We hope that Big Tech companies take concerns about meta-vulnerability seriously and we urge governments and regulators to prepare for the significant impact the metaverse will have on the fundamental rights of individuals, especially those who are vulnerable or marginalized.

We recommend that governments and regulators:

- Ensure that businesses developing the metaverse follow the UN Guiding Principles on Business and Human Rights. Technology companies should be required to assess the impact of the metaverse on the human rights of people who are vulnerable or marginalized and conduct meaningful consultation with affected groups and other stakeholders.
- Establish guidelines for developing robust models to measure the impact on the human rights of vulnerable groups in the metaverse.
- Require technology companies to involve vulnerable groups in the participative design of the metaverse.
- Set standards of best practice for the 'vulnerability-sensitive' design of this new technology, based on the lessons learnt from the participatory design process.
- Clarify whether the current laws which prohibit sexual violence are applicable in the metaverse and address any gaps by enacting new laws and policies.
- Review and, if necessary, restrict the use of AI-driven emotional recognition of users in the metaverse.

