SUBMISSION TO DCMS COMMITTEE INQUIRY INTO THE GROWTH OF 'IMMERSIVE AND ADDICTIVE TECHNOLOGIES'

Charities Aid Foundation

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0. Charities Aid Foundation (CAF) is a leading international civil society organisation. Our mission is to motivate society to give ever more effectively and help transform lives and communities around the world. We work to stimulate philanthropy, social investment and the effective use of charitable funds by offering a range of specialist financial services to charities and donors, and through advocating for a favourable public policy environment.

0.1 As part of that work we have been exploring the impact of emerging technologies on the work of charities and the ways in which people are able to support them. It is crucial that representation from the charity sector is included in future discussions about immersive technology. These organisations represent many of the most marginalised groups and individuals in our society, so it is vital that they are able to speak up and highlight concerns about the potential impact of emerging technology.

0.2 Government can play an important role in ensuring that charities and their beneficiaries are able to harness the potential benefits of immersive technology by supporting charities to develop the required skills and knowledge to embrace technological innovation, and to speak up on behalf of individuals and communities who may be adversely affected by technological change.

1. The pace of technological change

1.1 In terms of the understanding of augmented reality and virtual reality technology ('AR' and 'VR') in the charity world, our sense is that there are small pockets of exciting innovation set against a backdrop of low levels of awareness, skills and understanding. This is not a situation unique to immersive technology: more broadly, charities often struggle to adopt and adapt to new technologies due to lack of resources and skills. One of the key points we wish to make is that charities will need support from policymakers, industry and donors to develop the potential of emerging technology for social and environmental good. Given the huge potential

that this technology holds, the costs of failing to involve charities could be enormous.

1.2 In broad terms, immersive technology is likely to affect charities in three key ways:

- Creating innovative new opportunities to deliver social and environmental good.
- Changing the operating environment in which organisations work (e.g. by offering new methods of communication or interfaces).
- Creating new social problems that will affect the people and communities that charities serve.

1.3 Examples of AR and VR already being applied in a social good context include:

- Charity:Water's VR film 'The Source'[1], which gives viewers an immersive experience depicting the challenges faced by a young girl on her daily journey to get water in Ethiopia.
- Alzheimer Research UK's app 'A Walk Through Dementia' and The National Autistic Society's 'Too Much Information' 360° video[2], which can be run on a smartphone using an inexpensive VR viewer (such as Google Cardboard). Both give viewers an insight into what life is like for sufferers of the condition in question.
- Royal Trinity Hospice's research into the use of VR to give end-of-life patients immersive experiences as a way of improving health and wellbeing[3].

2. Our research

2.1 CAF recently surveyed charity leaders about technology for our Charity Landscape publication[4] which highlighted some relevant insights. For example, nearly three quarters believe that technology will change the nature of the problems that civil society organisations have to address.

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[1] https://www.charitywater.org/vr/
[2] http://www.awalkthroughdementia.org/ and https://www.autism.org.uk/get-involved/tmi/about/vr.aspx
[3] https://www.royaltrinityhospice.london/news/trinity-research-into-virtual-reality-therapy
[4] Social Landscape 2019, *CAF*, 8 April 2019

2.2 Investing in IT remains a key priority with 87% having done so previously or planning to do so in the next 12 months (up 4% since 2017). But while 59% of charity leaders say that they use new technology and social media effectively, only 29% agree that charities generally are using new technology effectively to increase giving.

2.3 Finally, although nearly nine in ten charity leaders disagree that technological change is irrelevant to their organisation, they were polarised when asked whether their organisation had a strategy in place for dealing with technological change (45% agreed versus 41% disagreed). There is a noticeable difference in opinion here between the leaders of small and large charities. While 63% of large charities agree than they have a strategy in place, this is only true for 38% of small charities and 47% of medium sized charities.

3. Impact on society

3.1 Immersive technology is likely to have an effect on charities by altering the nature of social and environmental needs; or creating entirely new ones. This could pose major challenges for charities if they are not only asked to spread their already-stretched resources even thinner, but find that they struggle to develop the technical knowledge required to understand these new problems and find solutions to them as well.

3.2 Future AR and VR interfaces may heighten the effect of platforms limiting people's experience by trapping them in echo chambers in which they find their existing views and prejudices reinforced and amplified. VR interfaces enable the user to interact with the internet from within a computer-generated world while AR interfaces overlay elements of these virtual worlds onto the real world. We have already heard a lot about the potentially damaging effects of filter bubbles on social media. The growing ubiquity of conversational interfaces such as Amazon's Alexa or Microsoft's Cortana means that this effect may be heightened. As a growing proportion of our experience becomes mediated by these interfaces, the danger is that they will present us with choices and interaction based on existing preferences

and thus will limit our experience even further (perhaps without us even realising it). This will create new challenges for charities in terms of things like increased social isolation and decreased community cohesion.

3.3 Immersive technologies represent an enormous privacy challenge because they present opportunities for the collection of even more personal data about users. In recent years, we have learnt how platforms like Facebook were able to collect and share up to five thousand data points on every user[5], which enabled them to create profiles of individuals that can reliably predict not only preferences but also their reactions. The nature of AR and VR may allow for the collection of even more information and recent elections have proven the extent to which it is now possible to apply machine learning software to data on online behaviour in order to manipulate the way people react to information they are shown. Companies are able to take advantage of insights from behavioural economics, which show the effect that different ways of presenting information and choices has on people's actions. Therefore, platforms can employ 'behavioural microtargeting' to deliver thousands of variants of content which is optimised to influence individuals, based on the data collected by immersive technologies.

3.4 A growing amount of attention is being paid to the ways in which algorithms - which underpin many immersive technologies - reflect the implicit values of human designers or historical statistical bias embedded in the training data when they come to operate. Bias against entire demographic groups can emerge due to the design of the algorithm, their unanticipated use or decisions relating to the use of data[6]. Given that many charities exist to represent the most marginalised people in society, this sort of bias (whether intentional or unintentional) is a real source of concern. Charities must play a role both supporting victims of these problems, and attempting to prevent bias occurring in the first place it. This best achieved by working with technology companies and government to provide oversight of the use

[5] Behind the scenes at Donald Trump's UK digital war room, *Sky News*, 22 October 2016
[6] Algorithm's Gonna Get You: What the rise of algorithms means for philanthropy, CAF *Giving Thought* blog, 18 January 2017

of algorithmic process and ensure that the unintended consequences are minimised[7].

3.5 Charities are already starting to play a key role in tackling digital exclusion: ensuring that their beneficiaries are not left behind by the pace of technological change by helping them to develop skills and giving them the opportunities to make use new tools in a safe environment. As technologies like AR and VR become more ubiquitous, inability to use to them may hinder one's ability to engage fully in society. Access may therefore need to be understood as a basic right, just as the UN declared access to broadband to be in 2016. Charities therefore need to ensure they are in a position to help their beneficiaries when it comes to accessing these new technologies.

4. Impact on individuals

4.1 Spending large amounts of time within online or virtual environments may affect people's behaviour and ability to function in the real world. Most mental health and behavioural issues obviously predate the invention of immersive technologies, but there is emerging evidence that technology could exacerbate some of these challenges or present new ones[8].

4.2 Many of the social standards and rules that exist within our societies do not apply in the same way in online or virtual contexts, which can have problematic consequences. We are already seeing people act in ways that offline society would consider reprehensible, because they are empowered by anonymity and a sense of removal. This behaviour raises concerns about the emotional and psychological impact on victims. There are also deep ethical and legal questions[9] about to what extent we should apply real-world rules and standards in immersive environments. For example, earlier this year a soldier was formally disciplined after killing his

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[7] Sorting Algorithms: the role of civil society in ensuring AI is fair, transparent and accountable , *Stanford Digital Impact*, September 2018

[8] Virtual Reality Can Leave You With an Existential Hangover, *The Atlantic*, 21 December 2016

[9] Future Imperfect: 10 new problems that technology will create and charities will have to deal with, CAF *Giving Thought* blog, 20 April 2017

colleagues during a virtual training exercise. He is believed to be the first person punished under UK military law for offences in a virtual scenario[10].

4.3 AR and VR can exacerbate psychological dissociative disorders in which a person has recurrent feelings of being 'outside themselves' observing their own actions (depersonalisation) or inside themselves but detached from their surroundings (derealisation). Similarly, while technology can be used as a tool to increase empathy, it could have the opposite effect if the unreality of virtual situations was constantly reinforced to the point where people became numbed to the feelings of others and then carried this attitude into real-world situations. Another serious negative effect of spending large periods of time in virtual environments may be that people develop an active hatred of the physical world. If you spend the majority of time in an environment where you have been able to craft your identity carefully, it is easy to see how the real world (where you are tied to your physical body) could be unappealing.

4.4 In addition, spending long periods of time in a virtual environment could have negative effects on your physical wellbeing. Partly this is as a direct result of the reduction in real-world social interaction, which is almost universally recognised as a vital element of maintaining good mental and emotional health.

4.5 Those who spend large periods of time in these environments, particularly young people who do so during important developmental phases, may also fail to develop a proper understanding of social cues and find it harder to interact effectively in the real world. Furthermore, there are other contextual elements of our real-world interactions that play a hugely important role in developing memory and understanding, and which may be missing in virtual environments such as smell, touch and external sounds.

4.6 The full impact of immersive technology on social interactions and behaviour is not yet known. However, given the potential effect it could have on issues at the heart of many charities' work, it is vital that they have the skills and resources they need. This

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[10] Soldier charged after 'going rogue' during computer game on virtual battlefield *Telegraph*, 24 March 2019

will enable them to engage in the debate about how this technology is developed, and to work with policymakers and the technology industry to ensure that it ends up benefitting, rather than harming, our society.

5. Impact on charities

5.1 Immersive technologies could enable charities to be more effective and efficient. For instance, AR and VR (in combination with Artificial Intelligence) could be used to provide new interfaces or advice services for service users. These might not only be lower-cost, but could be more effective than human-led services at getting people the information they require. They could even be available 24 hours a day so that people could access them whenever they need them.

5.2 Immersive technology could have an enormous impact on the way that charities raise funds. AR and VR enable new forms of storytelling that creates powerful emotional bonds. A recent study that explored different ways of building empathy, an important link with altruistic behaviour, found that a VR experience produced longer-lasting empathetic responses than conveying the same material using more traditional methods[11]. Additionally, there are obvious practical reasons for charity campaigns to incorporate immersive technology that is portable, accessible to people with disabilities and will prove increasingly affordable in the future.

5.3 Another area of immersive technology that is further developed than either AR or VR and likely to prove important for fundraising in coming years is gaming and e-sports. CAF research[12] found that players and developers are very open to the idea of supporting good causes through gaming. We have already seen the creation of new games through charity partnerships, the donation of sales revenue to charity and games being used for sponsored challenges. For example, online platform JustGiving and four charities partnered together to launch a hub to offer players tools and resources to help make gaming for a good cause easy and engaging[13]. Charity

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[11] Building long-term empathy, *PLOS One*, 17 October 2018
[12] Giving Through Gaming, *CAF*, 4 January 2017
[13] JustGiving launches Gaming for Social Good Hub, *EFA*, 27 March 2017

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streaming, similar to traditional telethons, with people broadcasting themselves playing games live on the internet while urging viewers to donate, has proved extremely successful in both raising money and awareness building. Streaming platform Twitch estimates more than $75m was raised for various charities on its service alone between 2012 and 2017[14].

5.4 In general, people respond better online to information and requests that come from peer networks. So if charities can use immersive technology effectively, their supporters can become advocates, fundraisers and content generators in order address some of the challenges of the attention economy.

6. The attention economy

5.1 Immersive technologies form part of the 'attention economy' – an array of sophisticated techniques competing for consumer engagement. In addition to charities having to address the negative consequences of the battle for attention directly, there are also likely to be wider, indirect consequences that will affect many organisations[15]. Many charities, for instance, need to get across fairly nuanced and sophisticated messages about their work and the causes they are trying to address. This task will be much harder in an online environment where it is difficult to keep anyone's attention. Furthermore, our hunger for new content puts organisations under pressure to produce increasing amounts and ever more quickly but this is difficult for small organisations within civil society that operate with very limited resources[16].

5.2 Another challenge for charities is that the attention economy uses reward mechanisms (such as likes and shares) to stimulate the release of small amounts of dopamine – a chemical found naturally in the human body that sends signals from the body to the brain. But dopamine is important when it comes to charitable giving. One of the most widely accepted theories to explain philanthropy relies on the

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[14] 2017 Charity Update, *Twitch*, 20 July 2017
[15] Attention pleas: charities, the attention economy and ethical design, CAF *Giving Thought* blog, 8 February 2018
[16] What living in the 'attention economy' means for CSOs, *EFA*, 27 March 2018

notion that donors get a psychological reward, or 'warm glow', in return for their gift. It is possible that the dopamine stimulation from new technologies and the warm-glow effect of giving could cancel each other out. So if people were getting a feeling of reward simply by sharing social media posts, it may reduce their subsequent motivation for actually donating any money. This is similar to the questions people are asking about whether 'clicktivism' undermines traditional social action.

5.3 On a practical level, charities are at a distinct disadvantage in the attention economy. The platforms and apps that already have a huge hold over our attention guard it jealously. Increasingly these platforms are also enhancing their functionality (e.g. by adding payment mechanisms) so that you never need to leave them. So immersive technologies represent another step towards a model where your whole online experience is shaped by a limited number of gatekeepers[17]. Charities will still be able to get their message through, but all the power will be in the hands of the immersive platforms. This presents significant challenges if certain organisations get preferential or discriminatory treatment. We have already seen that technology companies are willing to tailor content to meet the demands of authoritarian regimes around the world[18] so it is perfectly plausible that they could take a similar approach in side-lining charities they felt were problematic.

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[17] Why the battle for our attention matters for charities, *Charity Digital News*, 6 August 2018
[18] Such as Facebook in Myanmar *(Vox*, 2019), Google in China *(TechRadar*, 2018) and others

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