

The digital divide, inclusion and access for disabled people in IT Supported Emergency Response Systems: A UK and EU-based analysis

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ABSTRACT

This short insights paper examines IT Supported Emergency Response systems from the perspective of the digital divide and access for disabled people. It is argued that inclusive design is often overlooked in the development of emergency systems and this can lead to increased marginalisation of certain societal groups, such as disabled people and older people. Given the importance of equality of provision in relation to emergency responses there is a need to examine accessibility policy in this area to determine whether it enables the equal participation of all. This is important both in relation to the ability to access key information in an emergency situation and to participate in crowdsourced data generation to help in the targeting of resources, both at the time of an emergency and in subsequent planning. This insights paper takes both a practical and theoretical approach and focuses upon key policies emanating from the EU and UK.

Keywords

Disability, digital divide, emergency systems, UK, EU

Introduction

The acceptance that there is potential for digital exclusion in relation to the State's use of technology reflects the concept of the "digital divide". This term describes the potential for technological developments to worsen pre-existing socio-economic divisions (Castells, 1999). The underlying fear is that technological advances can serve to create further inequality rather than act as an aid to facilitate equal access to resources (NTIA, 1995). This gave birth to the political concern that technological equality can only be achieved if policies are put in place to ensure all that citizens are given the opportunity to reap the benefits of technological developments equally. The power provided by technology and information is only truly effective if the possessor is able to access this information effectively, analyse its worth and participate in its creation. In IT Supported Emergency Response Systems initiatives such as the EU's Community mechanism for civil protection (European Commission, 2013) and the UK's Emergency Response and Recovery Guidance (UK Cabinet Office, 2013) there is a recognition of the requirement for diverse technological responses but, within this, there is a fundamental need to ensure that a strong focus is placed on the diverse needs of those both accessing and creating the relevant information.

The Digital Divide in the EU

The term digital divide was first used in the United States to indicate the danger of unequal access to technology exacerbating existing socio-economic divisions, creating technology “haves” and “have nots”. It is a multi-faceted concept that involves inequalities of access both at the physical level of infrastructure and at the level of website and software design. The Digital Agenda for Europe (European Commission, 2014), one of the cornerstones of the Europe 2020 initiative, focuses upon digital inclusion as a part of one of its pillars. A key aim is for all citizens to have access to fast broadband by 2020 (Broadband for All, 2014) but progress in relation to accessible design has been slower. The new EU Accessibility Act seeks to harness the purchasing power of the State in measures which aim to embed accessibility into procurement strategies. This should lead to a further focus being placed on inclusive design for IT-related products and services across the EU.

Inclusive Design and Standardisation

The UK Government’s Digital Strategy (Cabinet Office, 2012) sets out how providing services online will save between £1.7 and £1.8 billion a year in an aim to become “digital by default”. This approach has been followed in the UK’s strategies relating to information systems for emergency management. This highlights the “need to support single and multi-agency decision making and the external provision of information that will allow members of the public to make informed decisions to ensure their safety”. The overarching Digital Strategy accepts that there is the potential to exclude those who cannot access the relevant technology and allows for an unspecified level of choice in citizens’ interaction with the information. The need for inclusive design is highlighted but no detailed guidance is given on how this can be achieved. Online platforms, apps and websites can be fully accessible to all if they are designed according to certain technical standards (W3C, 2008). Despite the identification of accessibility as a priority and legislative provisions such as the Disability Equality Duty mandating the need for accessible design, a level of inaccessibility still persists in publically-provided online services (Easton, 2011). Indeed, a Europe-wide report (Technosite, 2011) found that only 39% of EU public sector online service provisions at both a supra-national and domestic level reached what the report deemed to be appropriate level of accessibility. The need for inclusive design, while focusing on disabled people, is also of the utmost importance in relation to supporting an ageing population with the growth of impairments such as those, for example, related to sight and mobility.

In their work “*Digital Disability*” Goggin and Newell (2003) highlight how the accessible design of technology is often seen as an expensive afterthought rather than being placed at the centre of the procurement and design process. This finding reflects the notion of a disabling society, as identified by the social model of disability, in which the societal structures surrounding website accessibility are disabling rather than enabling the end user’s participation (Easton, 2013). When theorising around technological exclusion, disability as a category was absent from early research, perhaps due to definitional difficulties (Adam and Kreps, 2009). Given the growth of the Internet at a time when the social model of disability was an influential discourse of disability, its potential to develop as a truly enabling environment was lost as the established focus on the “normal” was allowed to dominate its design and expansion.

Technology’s Potentially Marginalising Impact

The UK Government is seeking to harness the opportunities of crowdsourcing to achieve a “*smarter public sector and a stronger society*” (Yiu, 2012) and is aiming to harness the power of initiatives such as those used in FEMA’s response to Hurricane Sandy (Lohdan, 2013). While these initiatives allow unprecedented citizen participation, there is the potential for the data generated to provide an inaccurate picture if the services are not being engaged with by a representative spread of the population. If technology is accessed and information generated on an unequal basis then there is a danger for an already marginalised group, such as disabled people, to be excluded from the data and therefore overlooked in the decision making process at the time of an emergency and in future planning. Furthermore, the ability to create ever more sophisticated systems through the integration of data collected from across the Internet, sensors and information systems has and does raise a number of legal, regulatory and ethical questions.

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The Need for Technology to Support Equality and Independence

The growing move towards technology-enabled Government services, such as technology-facilitated emergency response systems, will only support disabled people's to lead independent lives and be protected if it is delivered with inclusion as a priority. In the light of this, a useful lens through which to analyse the initiatives is Nussbaum's capabilities theory. Nussbaum's influential work "*Frontiers of Justice*" (Nussbaum, 2007) attempts to conceptualise the capabilities approach to justice in order to provide a theory which addresses access to justice for disabled people. Her theory puts forward a number of capabilities which all need to be achieved at a minimum level in order to reach a level of basic justice. The list of capabilities includes the ability to control one's environment which relates to both political and material control. When the debates on access to technology for disabled people and the digital divide are drawn into the notion of political participation this raises issues in relation to Nussbaum's political control capability. She continues to state that independent participation is preferable to guardianship and agency. However, where this independence is unattainable the key question is: "*Has the public political arrangement in which [an individual] lives extended to her the social basis of all the capabilities on the list?*" The UK's Emergency Response and Recovery Guidance holds that: "*The flow of authoritative information...underpins the resilience of a community to disruptive challenges; supports business continuity management arrangements; and facilitates self-help*". It is this level of self-help that cannot be achieved if systems are not designed with accessibility as a priority.

Conclusion

This short paper seeks to explore the "*public political arrangement*" of the provision of IT Supported Emergency Response Systems and, with a focus on disabled people, analyse the extent to which this supports the capability to achieve an independent and valued life. This will be done through an analysis of policies relating to accessibility embedded within the development of the technology-facilitated emergency response systems of the EU and UK.

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