Improving sociotechnical cybersecurity through technological citizenship

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Citizens are vulnerable to various harmful consequences of the rapidly digitalizing society. This paper focuses on threats in the realm of cybersecurity and aims to clarify which different types of technological citizens are involved in this sociotechnical realm. Technological citizenship (Frankenveld, 1992) can be defined as the accumulation of rights and obligations which enable citizens to profit from the merits of technology and to be protected from the risks technology might induce. Technological citizenship questions who has the authority to make decisions about implementing technology and by what right, and aims to emancipate the ordinary citizen in relation to the expert. While citizens have the right to information and participation in decision-making processes about technology, these rights come with the responsibility for citizens to indeed inform themselves and to participate in order to democratize technology. In this paper, the different roles technological citizens can hold within the cybersecurity realm are clarified and illustrated with a reconstruction of a recent data breach in a Covid-19 related healthcare system in The Netherlands. This breach – from the moment it was exposed to the policy responses it triggered – involved actions of various types of technological citizens such as ethical and criminal hackers, cybersecurity experts, critical journalists, politicians and (potential) victims. Certain actors used their rights and responsibilities as technological citizens by taking action and sparking the public debate to criticize the technical and social governance of the system, causing effects in the political and private domain. This case study serves as an inspiration for how the sociotechnical security of the cybersecurity realm could be improved by evaluating and reimagining the different roles of involved technological citizens.