Table S1. Summary of civic theories.

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| ***Democracy-related Theories*** | |
| Saward’s Forms of Democracy | Describes three forms of democracy: Representative, Referendum, Assembly. |
| Van Dijk’s Models of Democracy | Describes six models of political democracy: Legalist, Competitive, Plebiscitary, Pluralist, Participatory, Libertarian. |
| e-Government | The use of information and communication technologies to facilitate government functions and procedures for greater effectiveness and efficiency in governance. |
| e-Democracy | The use of information and communication technologies to support and enhance democratic decision-making processes. |
| Deliberative Democracy | Discussions and debates are made by free and equal citizens who reason amongst themselves to reach a rationally motivated consensus. |
| Agonistic Pluralism | Constructive confrontations and contestations are made by citizens in which a multiplicity of voices and dissensus are surfaced. |
| ***Citizen-related Theories*** | |
| Political Participation Theory | The ways in which different people and organizations participate in politics. |
| Social Capital Theory | The value of social relations accumulated through social structures and interactions. |
| Theory of Connective Action | Through self-expression and recognition in online social networks, individuals self-organize and mobilize toward a common goal. |
| Civic Intelligence | Collective knowledge that is directed towards a common good to serve civic aspirations. |

Table S2. Summary of tech theories.

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| ***Behavior Theories*** | |
| Self-Determination Theory | People are better motivated in conditions that support their experience of autonomy, competence, and relatedness. |
| Flow Theory | A state of being immersed in an activity so enjoyable that everything else is inconsequential. The act of doing the activity serves sufficiently as motivation. |
| Engeström’s Model of Activity Theory | A unified complex model of Activity Theory that accounts for the social structures that support an activity. |
| Structuration Theory | The connections and dynamic relationship between situated interactions and social structures of meaning, norms, and power. |
| Social Reproduction Theory | The maintenance and continuation of existing social structures and systems that lead to the perpetuation of social inequalities throughout generations. |
| Moral Foundations Theory | There are five psychological systems that serve the basis of moral intuitions and reasoning: harm/care, fairness/reciprocity, ingroup/loyalty, authority/respect, and purity/sanctity. |
| ***Technology-Use Theories*** | |
| Media Richness Theory | Communication mediums have different effectiveness in reproducing the information sent through them. |
| Technology as Experience | A framework to understand users’ experience with technology through the consideration of the sensual, emotional, compositional, and spatio-temporal threads of the interaction. |
| Structurational Model of Technology | A model on the duality of technology where technology is created through human action yet also influences human action. The influences are drawn among the three elements of human agents, technology, and institutional properties. |
| Technology Acceptance Model | A model to examine users’ intention to use new technology by the determinants of perceived usefulness and perceived ease of use. |
| Reader-to-Leader Framework | A framework on motivating technology-mediated social participation for users in growing levels of maturity from reader, contributor, collaborator to leader. |
| Model for Effective Data Use | A model on seven layers of technologies and skills for effective data use that seeks to address the digital divide. |
| ***Design Theories*** | |
| Speculative and Critical Design | Design that aims to surface hidden agendas and explore alternative values, forms and representations of objects and norms. |
| Contestational Design | Design that aims to promote particular agendas through the confrontational collaboration of adversarial partners in politically centered discussions. |
| Prefigurative Design | Design that aims to support justice and healing and minimize harm in the community through the building of counter-structures. |
| Universal Design | Design that aims towards usability and accessibility for all people, to the greatest extent possible, through the inclusive design of products and the environment. |
| Pattern Language | A design thought process that describes a problem and the environment in which it occurs through the use of patterns to aid in the generation of solutions that are replicable in other similar contexts. |
| User-Centered Design | A design approach with a focus on understanding user needs, tasks, and environments in each phase of the design process that is conducted iteratively. |
| Participatory Design | A design approach to co-create solutions that meet the needs of stakeholders through the active engagement of all stakeholders in the design process. |
| Value Sensitive Design | A design approach that accounts for human values in the design of technology through the consideration of the impacts and implications that the technology brings to all stakeholders. |