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Why is There a Data Trust Deficit?

ACM TechBrief Examines Public Attitudes Toward Safety of Their Data

New York, NY, June 21, 2023 – The Association for Computing Machinery's global Technology Policy Council (TPC) has released its "TechBrief: The Data Trust Deficit." It is the latest in a series of TechBriefs—short technical bulletins that present scientifically grounded perspectives on the impact and policy implications of specific technological developments in computing.

"TechBrief: The Data Trust Deficit" is focused on a key challenge: that the full potential of data-driven systems cannot be realized without better understanding the roots of the distrust they can engender.

"It's increasingly difficult to participate in society without using systems that collect your data," says Helen Kennedy, a Professor at the University of Sheffield and lead author of the new TechBrief. "But while the public is using these systems on a daily basis, people don't necessarily trust them. The most important goal for the computing field is to ensure that data systems are built from the ground up to be trustworthy. A first step in building trustworthy systems must be to understand *why* people have these doubts."

Importantly, the ACM TechBrief dispels the popular misconception that a lack of trust in data systems is a result of poor data literacy among the public. According to this view, if people only knew more about data systems, or companies and organizations were more transparent, trust would improve. However, the TechBrief points out that greater literacy often increases distrust. It also cites studies revealing that trust in data systems varies according to the context and institution that is handling the data. For example, the public feels a high degree of confidence when their data is managed by a medical organization and a far lower degree of trust when their data is handled by a social media company.

"This is the second TechBrief in a series on systems and trust," added Stuart Shapiro, Chair of the ACM TPC's TechBriefs Committee and Principal Cyber Security and Privacy Engineer at the MITRE Corporation. "Keeping data safe in every sense is a necessity of modern life. Efforts to ensure the

responsible use of data focus on developing regulatory frameworks, corporate best practices, and industry standards, as well as supporting technologies. Data assurance is not a new phenomenon, but in the last few decades we have entered into a new phase where the computing field must establish a road map for how we manage this challenge. As the largest association of computing professionals in the world, ACM must help lead this discussion. This TechBrief should be viewed as an accessible starting point that will bring together the public, computing professionals, and regulatory bodies around some shared fundamentals."

In addressing the question of why the public distrusts data systems, the TechBrief also emphasizes that trust can vary according to demographic background. "The Data Trust Deficit" cites research showing that the negative effects of structural inequalities influence whether people trust. The author notes that "…both historically and more recently, it has been found that the wealthy and well-educated have higher levels of trust than disadvantaged groups. This may be because the consequences of misplaced trust can be more severe for the disadvantaged."

The key conclusions of "The Data Trust Deficit" TechBrief are:

- The degree to which people trust data-driven systems depends heavily upon the level of their trust in the institution, sector, or broader data ecosystem in which that system operates.

- Disadvantaged groups may distrust data-driven systems based upon adverse experiences of bias, making better understanding of the structural roots of such distrust imperative.

- Better data-driven systems—not simply better information or greater digital literacy—are essential to address the data trust deficit and to achieve greater trust in the broader data ecosystem and the institutions involved.

ACM's TechBriefs are designed to complement ACM's activities in the policy arena and to inform policymakers, the public, and others about the nature and implications of information technologies. As with other TechBriefs in the ACM series, "The Data Trust Deficit," includes an overview of the major policy implications of the technology, key statistics to put the issues in context, a narrative introduction to educate the public, and key conclusions. Previous ACM TechBriefs focused on safer algorithmic systems (the first in the Systems and Trust series), climate change, facial recognition, smart cities, quantum simulation, and election security. Topics under consideration for future issues include generative AI, media disinformation, content filtering, blockchain, accessibility and more.

About the ACM Technology Policy Council
ACM's global Technology Policy Council sets the agenda for global initiatives to address evolving technology policy issues and coordinates the activities of ACM's regional technology policy committees in the US and Europe. It serves as the central convening point for ACM's interactions with government organizations, the computing community, and the public in all matters of public policy related to computing and information technology. The Council's members are drawn from ACM's global membership.

About ACM

[ACM, the Association for Computing Machinery](), is the world's largest educational and scientific computing society, uniting computing educators, researchers, and professionals to inspire dialogue, share resources, and address the field's challenges. ACM strengthens the computing profession's collective voice through strong leadership, promotion of the highest standards, and recognition of technical excellence. ACM supports the professional growth of its members by providing opportunities for life-long learning, career development, and professional networking.

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