Human Security Informatics: A Human-centered Approach to Tackling Information and Recordkeeping Issues Integral to Societal Grand Challenges

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Abstract. Emanating out of ongoing research in archival and recordkeeping studies, this paper proposes Human Security Informatics (HSI) as a new human- and humanitarian-centered rubric and approach under which concerted research, development and educational efforts by the iSchool community, and the different fields and interests it encompasses, could be brought to bear to resolve or mitigate information, data and records-related challenges that are integral to and pervasive in societal grand challenges and wicked problems. The HSI approach is distinctive and provocative for several reasons: it puts humanitarian ethics and a participatory ethos at is core; it surfaces aspects of information infrastructure, particularly those relating to recordkeeping, transparency and accountability that often go unrecognized and unacknowledged as components of these intractable problems; and it places the expertise and scope of iSchools in conversation with each other and with many other fields, institutions and governments that are on the frontlines of addressing these problems fully demonstrating the intellectual power and societal potential of the iSchools.

Keywords: Human Security, Informatics, Recordkeeping.

1 Introduction: The Centrality of Archives and Recordkeeping Concerns to Societal Grand Challenges

This paper proposes Human Security Informatics as a new human- and humanitarian-centered rubric and approach. Under this rubric concerted research, development and educational efforts could be brought to bear by the iSchool community, and the different fields and interests it encompasses, on societal grand challenges that manifest at the local, national, international and global levels. This proposal emanates out of initiatives developed by researchers in archival and recordkeeping studies, an area of scholarship and education that has seen remarkable growth and diversification within iSchools since the inception of the movement (Gilliland and McKemmish, 2017; Leazer, 2016; White and Gilliland, 2009; Cox and Larsen, 2008; Cox et al., 2001).

In July 2018, the annual institute of the Archival Education and Research Initiative (AERI) (https://aeri2018.ua.edu/), the leading community for academics, educa-

tors and researchers-in-practice around the globe (Buchanan, 2016), adopted the following advocacy platform:

"Societal grand challenges, and what are sometimes referred to as 'wicked problems', are complex, multifaceted, and widely recognized fundamental problems with broad applicability and interdependencies that require extraordinary breakthroughs and the engagement of multiple areas of expertise to address.

AERI recognizes the centrality of archives, and records and recordkeeping concerns more broadly to societal grand challenges. We are committed through our Societal Grand Challenges Platform and through engaging and collaborating with others to identifying, initiating, promoting, and partnering in research and educational endeavors to grapple with these wicked problems.

We further recognize that the field of recordkeeping and archival studies faces its own complex, contingent, multidimensional and persistent challenges, many of which underpin societal grand challenges. We are also committed to identifying, addressing, and fully engaging with these challenges."

The adoption of this platform followed several years of AERI plenary discussions on the imperatives and ethics of such a commitment, analyses of grand challenge discourse, and the reporting of findings of relevant projects carried out by AERI community members. In examining grand challenge discourse, an AERI study team of faculty and doctoral students from Australia, Canada, China and the United States identified 5 areas of societal grand challenges where there was already some base of research within the AERI community: corporate governance and social responsibility, climate change, global health, human rights and social justice. The team then conducted an extensive analysis of published reports and position statements issued by international, government, NGO, academic, industry and other bodies regarding the scope and complexities of these grand challenges in order to extract aspects where archival and recordkeeping research, development and educational expertise might contribute to potential challenge solutions or mitigations.

This work indicated that a core set of concerns repeatedly surfaced that can be mapped directly to the distinctive conceptualizations, scope, responsibilities and expertise of archives and recordkeeping research, education and practice. This distinctiveness is an important consideration to underscore because if the archives and recordkeeping field does not step up to lead the push to address these concerns, there is no other existing field that has similar competencies. Nevertheless those competencies on their own are also insufficient, since these concerns call for a responsive blend of professional expertise with theorization and critical analysis, policy and technology research and development at a capacity level not yet present in the archival and recordkeeping field. In recent years there have certainly been significant advances in computational archivistics (evidenced, for example, by the initiation of an annual IEEE Big Data Computational Archival Science Workshop in 2016), archival informatics, digital forensics and digital humanities; and research has been ongoing for several decades to ensure the reliability, authenticity and preservability of digital recordkeeping. However, even factoring in a deep commitment on the part of those engaged in archival and recordkeeping research and education, the findings of the study team clearly indicated that because of their complexity, progress on addressing

these concerns would additionally need to draw upon the expertise, methods and practices of many other information-related fields that are located within the iSchool community. Moreover, not all archival and recordkeeping studies programs have been preparing professionals and researchers in such a way that they might be ready to take on these challenges and there is a clear indication that new kinds of professionals with blended expertise are required.

Facets of these concerns invoke, for example, digital curation, information policy, privacy and data protection, digital security, information literacy, Cloud computing, mobile-based technology development and blockchain and smart contract implementations. Especially critical points for interventions by the archives and recordkeeping field include those processes and systems relating to accountability, assessment, classification, community and institutional memory, the creation and production of documentary evidence, knowledge development, records creation, organization and access, preservation and sustainability, and transparency. However, these in turn raise broader information questions regarding classification, compatibility, consistency, reliability and legibility as well as a host of policy and technical issues relating to how data and metadata are gathered, structured, validated, secured, managed, preserved, compiled, translated, shared and accessed, especially under challenging field conditions and across jurisdictional boundaries, and when equity, human dignity and humanitarian imperatives are foregrounded (Gilliland, 2017; 2018). Indeed, the findings to date of ongoing multifaceted projects undertaken by AERI community researchers such as the Archives and the Rights of the Child Program (https://www.monash.edu/it/our-research/research-centres-and-labs/rcrg/archives-and-the-rights-of-the-child) and the Refugee Rights in Records (R3) Project (https://informationasevidence.org/refugee-rights-in-records) indicate that making a dent in such challenges will require a range of policy and methodological approaches and disciplinary and technological expertise, global collaboration, robust data management and recordkeeping infrastructure, innovative applications of information and communication technologies and a considerable ramping up in professional capacity. At the same time, however, they demonstrate the vital potential of research that puts the interests of affected individuals at its center, that is scalable and can grapple with complexity, and that has the capacity to look across geographies, jurisdictions, cultures, life phases and generations.

2 Proposing Human Security Informatics

The Refugee Rights in Records Project has proposed *Human Security Informatics (HSI)* as a new rubric and approach under which a concerted research effort that brings this kind of capacity to bear could be encouraged (Gilliland and Lowry, 2019 forthcoming). The concept of human security was first introduced in 1994 in a report issued by the United Nations Development Program (UNDP) and has steadily gained currency and attention. The 1994 report stresses the urgency of the threats facing the world, including hunger, disease, poverty and terrorism. It notes that technological breakthroughs have not alleviated these and argues that "a new development para-

digm is needed that *puts people at the centre* [emphasis ours] of development, regards economic growth as a means and not an end, protects the life opportunities of future generations as well as the present generations and respects the natural systems on which all life depends" (p.4). The report framed seven essential dimensions of human security, each of which is implicated in some way with so many of the world's most pressing grand challenges: economic, health, personal, political, food, environmental and community, although these were not seen to be comprehensive, and they could be viewed retrospectively and prospectively as well as in present contexts. A more recent UNDP report (Gómez and Gaspar, 2016) outlines the fundamental human-centered and participatory ethos of a human security approach:

"Human security is a flexible approach and can be tailored to different contexts and topics, according to the specific context. No matter which topic is addressed, a guiding principle of the human security approach is that it requires understanding the particular threats experienced by particular groups of people, as well as the participation of these people in the analysis process" (p.2).

Imbricating informatics, broadly defined, with a human security approach, HSI prioritizes individual agency and supports the different dimensions of human security through multidisciplinary research and education relating to relevant information, evidentiary and technological aspects of societal grand challenges. Although other fields are certainly also addressing these challenges, few are specifically focused on information and recordkeeping infrastructure concerns, which often go unrecognized, or can bring so many forms of information expertise to bear, expertise that is uniquely co-located within iSchools. Equally, relevant research coming out of the information fields rarely approaches these problems from the perspectives of the individuals who are the most disempowered, disenfranchised or vulnerable.

3   Conclusion: iSchools Taking the Lead

The HSI approach is distinctive and provocative for several reasons: it puts humanitarian ethics and a participatory ethos at its epistemological core, which can provide a very different way of looking at a research problem; it surfaces aspects of information infrastructure, particularly those relating to recordkeeping, transparency and accountability, that are often are not recognized or acknowledged as components of these intractable problems; and it places the expertise and scope of iSchools in conversation with many other fields, institutions and governments that are on the frontlines of addressing these problems. While archival and recordkeeping expertise is absolutely central and the strongest research programs in this area are housed in iSchools, to be effective, HSI developments would necessitate both systematic and multidisciplinary efforts, supported by a broad-based commitment and effort on the part of iSchools and the iSchool movement that are home to many of the other needed information specializations and expertise. As such, the HSI approach offers an entirely new rubric under which to engage the disparate fields that are co-located within the iSchools in a way that will truly exercise the intellectual and professional power and potentials of the iSchool movement. The impact of such a commitment and concentration is poten-

tially extensive because the concerns identified through the AERI analysis appear to be common to multiple grand challenges and wicked problems. Thus there is a high potential for transferability of HSI research, development and educational outcomes to additional challenge areas.

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