

## BOOK REVIEW

**Trusting records in the cloud**, edited by Luciana Duranti and Corinne Rogers,  
London, Facet, 2019, XXI + 306 pp., £69.95 (paperback), ISBN 9781783304035

*Trusting Records in the Cloud* is a compilation of the most recent research generated by the research project of the International Research on Permanent Authentic Records in Electronic Systems (InterPARES). This fourth phase, labelled InrePARES Trust (ITrust) research project, has partnered with universities and organisations, from national and multinational arenas, public and private sectors, and the book has been published in association with the Society of American Archivists.

Editors Luciana Duranti and Corinne Rogers are respected in their fields and have strong affiliations and authority as information professionals. They currently work in the Archival and Information Studies program at the University of British Columbia. The main intention of the book is to bring the InterPARES Trust research together to offer a clear and useful guide and to give an indicator of where technology is driving the archival and records/information management professions. It includes 12 chapters dedicated to specific cloud-based issues surrounding cloud use for the creation, management and preservation of information.

The chapters by Julie McLeod, Patricia Franks, Hrvoje Stančić, Adrian Cunningham and Giovanni Michetti document research around trust, security and storage in the cloud environment. McLeod notes the challenges and issues in trusting cloud systems and services in regards to the exchange of sensitive information. She states that the foundational archival principles of intellectual control, appraisal, retention, disposition and preservation can increase trust, meeting user needs and ensuring authenticity. On a similar theme, Franks' chapter discusses four studies of retention and disposition in a cloud environment and focuses on trust and digital records, collaboration, appraisal in diverse systems, defining purpose and provenance, considering human factors, ensuring accountability, metadata for retention and disposition, and system evaluation for risk mitigation. Those studies determined that attitudinal shifts greatly influence the disposition of records and information.

The issue of trusting cloud-based systems is further discussed by Stančić. His chapter focuses on archival science and the long-term preservation of digitally-signed or sealed records with blockchain technology, utilising standardised procedures to retain authenticity, accepting records as evidence, certifying digital records and ensuring their long-term preservation as authentic records. The latter topic is also explored in Cunningham's chapter, which includes discussing an alternative to in-house digital preservation, choosing a trusted cloud service for digital preservation, Preservation as a Service for Trust (PaaST), cloud-enabled digital preservation, access for records not transferred to archives and 'dark' repositories as-a-service. Cunningham believes digitisation services contracted out can access greater technical resources, however they pose greater risk and are less trustworthy.

On a comparable topic, Michetti's chapter discusses cloud use, network storage and the subsequent need to reassess and redefine the role and meaning of arrangement and description in the digital environment. Technology offers novel techniques to enhance and expand traditional approaches. However, basic archival principles remain the starting point. They include respecting provenance, providing high level of descriptions, using automated techniques for item level description to show relationships, having strong description of aggregates, including subject analysis and sufficient information for preservation requirements.

The role of metadata in relation to authority is also discussed in regards to authenticity considerations based on ITrust research and subsequent models.

Elizabeth Shepherd's and Basma Makhoul-Shabou's chapters discuss governance and associated issues. Shepherd's chapter reads more like a literature review on government processes including defining open government and the Open Government Plan (OGP), acknowledging the role of data, records and archives in governance for accountability and transparency. It details privacy and data anonymisation, data quality, open government data and policy-making or governance, technical guidance, evaluation models, and methods, and it mentions security classifications: '... ever-present tensions between the right to information and the need for security' (p. 54).

The chapter authored by Makhoul-Shabou details the strategies, methods and tools that enable records' governance in a cloud environment and emphasises the quality of policies required for recordkeeping. Terms like interoperability, co-operation, legal relevance and input and legislation are defined and enterprise architecture is discussed through case studies and various applications. These demonstrate that organisations need cloud solutions, trust in these cloud solutions, and collaborative policy to ensure rigorous records management and strong information governance.

Fiorella Foscarini's chapter is on citizen engagement from a socio-cultural and user-centred perspective and draws on ITrust research. This research studied the relationships between records, record systems and the users of records and systems, types of human engagement and or participation with born-digital objects, and states that technology itself is not enough. Gillian Oliver's chapter on cultural heritage and the capture of multiple and diverse perspectives is comparable in theme as it documents two ITrust research projects from Canada and New Zealand. The Canadian case study demonstrates how pluralised perspectives are reflected in early policies. The New Zealand case study highlights trust issues of indigenous views of digitised resources and the impacts on indigenous language collections. These studies demonstrate that the vocabulary around cultural heritage needs to be bigger, inclusive and a greater part of information management in analogue and digital spheres.


Future directions to grow trust in cloud-based solutions are offered by Tove Engvall and by Victoria Lemieux and Darra Hofman. Engvall (who wrote his chapter in collaboration with Anderson, Bunn, Flinn, Ganser, and Henttonen) offers practical solutions by stating that the competencies, skills and guidance required for digital solutions will require reshaping the records profession. He investigates preservation in a modern context by exploring the interdependencies found in digitisation, conservation, migration, and preservation planning, and notes that long term digital preservation includes a growing awareness of digital security risks. Engvall's depiction of interconnections of relationships within the ontology demonstrate that the many security dependencies required for effective records management are continuous. Engvall accurately identifies the complex challenges facing records professionals in a modern open government environment.

Lemieux and Hofman reflect on the goals of the ITrust project, and suggest that the records profession requires an updated educational framework to deliver the new competencies required in records and archives management. Such developments could be supported, they argue, through access to virtual or physical laboratories to apply and develop theoretical knowledge already acquired. Their chapter goes on to challenge the traditional conceptions of the archivist's professional mission and identity.

*Trusting Records in the Cloud* covers the relevant issues well, provides some ways forward in managing and gaining trust and also allows the archivist, recordkeeper and/or information manager to see the interrelationships of the cloud system and to manage trust, accordingly. All chapters are well researched. Some chapters are engaging, while some chapters are granular in their detail, and others are repetitive with no real solutions offered.

In regards to the information management cloud-based environment, no new issues were raised and no novel approaches to solutions were proposed. The risks and threats to cloud-based storage of collections are constantly evolving, and arguably increasing, in an uncertain world. The title *Trusting Records in the Cloud* could be misinterpreted and lead a potential reader to assume that cloud-based activity is capable of being trusted by all (assuming normal risk activity is maintained). Even if not likely, cyber threats from state-based players, war or wartime restrictions, cloud operation insolvency, or banking system collapse could directly or indirectly impact the ability of cloud-based systems to remain accessible over a longer term. The book could benefit from a chapter providing thorough analysis of the unusual, unexpected, or unlikely risks to cloud-based collections over the longer term. Such detail would add to the very thorough information already provided on cloud-based activity, allowing the reader to form a balanced and informed view.

However, the combination of these chapters demonstrates that the solid foundations of governance, due process and internationally-acknowledged standards combined with established archival principles can lead to well considered risks and, once applied, will greatly increase trust in and trustworthiness of cloud-based systems. This level of trust is only possible through an enormous and urgent challenge.

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