

# Knowledge Infrastructures and Digital Preservation: An Examination of the Development of LOCKSS as a Second Order Technical System

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## Introduction

The LOCKSS (Lots of Copies Keeps Stuff Safe) program is "an open-source, library-led digital preservation system built on the principle that 'lots of copies keep stuff safe'" ("What is LOCKSS?," 2013). In a LOCKSS network multiple institutions agree to maintain copies of digital content, modeled on the system used by libraries to preserve physical content through duplication of resources across multiple distributed organizations. "The phrase 'distributed digital preservation federations' is being used increasingly to describe cooperatives of geographically-dispersed institutions who are banding together to form solutions to the digital preservation problem" (McDonald & Walters, 2010, p. 1).

## Emerging Themes

- The designated community as description and recruitment tool.
- Crisis of control: leveraging path dependencies to cope with the shift to Web-based publishing.
- Inventor/Entrepreneur: Understanding the work of LOCKSS founders as enacting technology & organizing work.
- LOCKSS as a technical system that leverages one infrastructure (academic libraries) in order to offset the negative effects experienced as a result of not having control over another (academic publishing).



<http://www.lockss.org/>

## Research Questions

1. How has the LOCKSS program developed over time?
2. What is the relationship of the LOCKSS program to the infrastructures upon which it is built?
3. Given the distributed nature of the LOCKSS program/network, what influence do individual actors have on the system?
4. How does examining the LOCKSS program as an infrastructure or technical system help us to understand trust and trustworthiness with regard to preservation of digital resources?

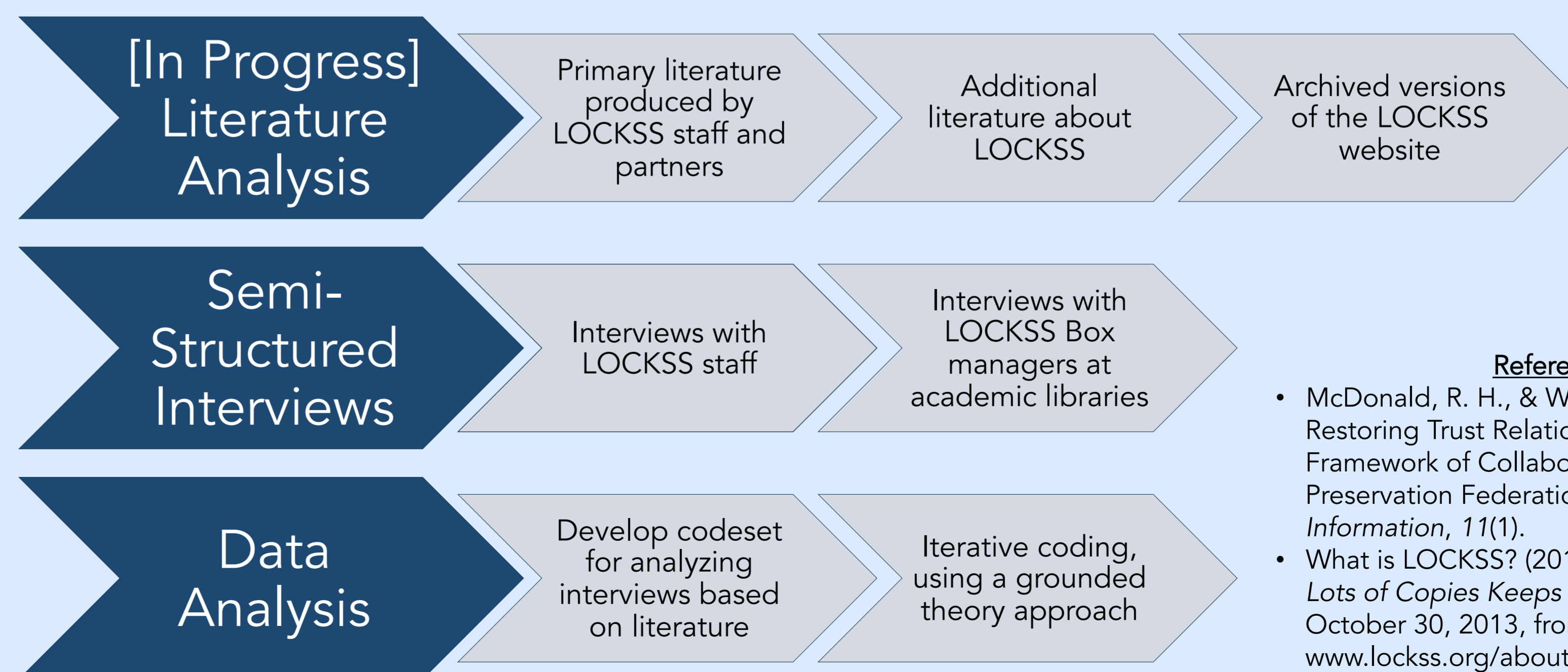
## Theoretical Framework

This study uses a theoretical framework that draws upon risk and disaster studies literature, as well as literature addressing infrastructure development and the development and adoption of standards. I examine LOCKSS as a risk mitigation program that relies upon large groups of actors adopting standards in order to achieve their individual and common goals of data preservation and organizational continuity of service.

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## Next Steps: Data Collection & Analysis



### References

- McDonald, R. H., & Walters, T. O. (2010). Restoring Trust Relationships within the Framework of Collaborative Digital Preservation Federations. *Journal of Digital Information*, 11(1).
- What is LOCKSS? (2013, April). LOCKSS: Lots of Copies Keeps Stuff Safe. Retrieved October 30, 2013, from <http://www.lockss.org/about/what-is-lockss/>