

Sustaining an Open Scholarly Ecosystem with Community-Based Open Source

ELPUB 2019

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June 3, 2019



COLUMBIA UNIVERSITY LIBRARIES

Welcome and Thanks - ELPUB 2019

ELPUB 2019



Sustain... Over Time...



Marseille: Braun, Georg, 1540 or 1541-1622
<https://digital.tcl.sc.edu/digital/collection/braunhogen/id/303>

Unpack Title

Sustaining an **Open**

Scholarly Ecosystem with

Community-Based **Open Source**

Sustain

- Definition: “use and stewardship of resources today that preserves them for tomorrow”
 - Components:
 - **Economy** - management, or stewardship, of the resources;
 - **Ecology** - relationship of the community with its environment
 - **Equity** - fairness to all
- ALA Sustainability and Libraries,
<https://libguides.ala.org/SustainableLibraries>

Open

“...free to access, use, modify, and share”

- Open Definition, <http://opendefinition.org/od/2.1/en/>

- Ensure content, technology and service can be sustained
- Avoid “traps” that impede economy, ecology, equity
- Support bibliodiversity
- Minimize conservation, remediation, migration costs

Scholarly Ecosystem

“Scholarly communication is the system through which research and other scholarly writings are created, evaluated for quality, disseminated to the scholarly community, and preserved for future use.”

- Principles and Strategies for the Reform of Scholarly Communication
<http://www.ala.org/acrl/publications/whitepapers/principlesstrategies>

Community-Based

“...larger community of users, programmers, administrators, governing agencies, and sponsors are involved in setting development priorities, providing user support, fixing bugs, defining policies, encouraging adoption, and otherwise maintaining a viable product.”

- It Takes a Village: Open Source Software Sustainability
<https://doi.org/10.7916/D89G70BS>

Open Source

“Open source software is made by many people and distributed under an OSD-compliant license which grants all the rights to use, study, change, and share the software in modified and unmodified form. Software freedom is essential to enabling community development of open source software.”

- Open Source Initiative, <https://opensource.org/>

Sustaining an Open Scholarly Ecosystem with Community-Based Open Source

WHY?

**...to better serve our faculty, students,
researchers and society - now and in future**

Foster Sustainability

- Sustain access to information for the long-term
- Foster discovery for reuse across disciplines
- Support scientific reproducibility
- Conserve, reformat and migrate over time

Foster Sustainability

- Evolving roles
- New approaches for new forms of scholarship
- Need for increased collaboration at scale

Content - Libraries, Non-Profits, Governments



THE NORWEGIAN
DIRECTORATE FOR ICT AND
JOINT SERVICES IN HIGHER
EDUCATION AND RESEARCH

DSpace@MIT

**Open Access at MIT
and Beyond**



**Open Textbook
Network**

COLUMBIA | ACADEMIC COMMONS

UC and Cambridge University Press agree to open access

publishing deal



JSTOR

The University of California and Cambridge University Press have entered into a publishing deal to advance the global shift toward an open access future for research.

PMC

PubMed Central® (PMC) is a free full-text archive of biomedical and life sciences journal literature at the U.S. National Institutes of Health's National Library of Medicine (NIH/NLM).

Open Access books on JSTOR

Content = Service?

Open Access to content is not enough!



It Takes a Village - Open Source Sustainability



Three Phases:

- Getting started,
- Growing
- Stable but not static.



It Takes a Village:

<https://doi.org/10.7916/D89G70BS>

**Content +
Open Source
= Service?**

Open Access and Open Source Are Not Enough!

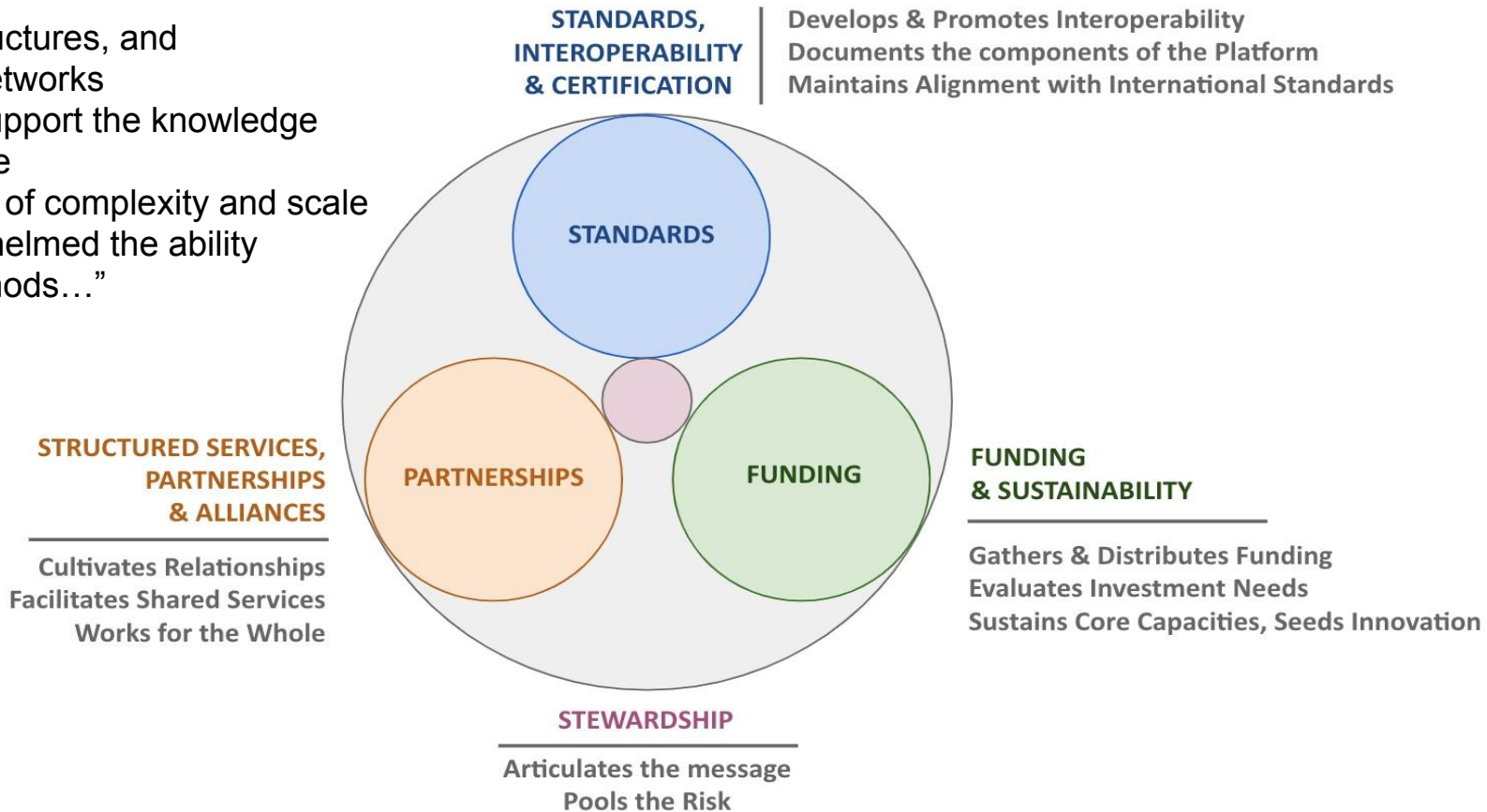


We Need Five Opens

- Open Content - access, re-use, bibliodiversity
- Open Source - documented, re-usable
- Open Format - standards-based, facilitate use, migration
- Open Protocols - standard APIs, network protocols
- Open Community - diverse, representative, inclusive

Sustain - Open Platform Initiative

“...systems, structures, and collaborative networks necessary to support the knowledge ecosystem have reached a level of complexity and scale that has overwhelmed the ability of existing methods...”



**Content +
Open Source +
Open Standards +
= Sustainable Service?**

Era of Rapid Change

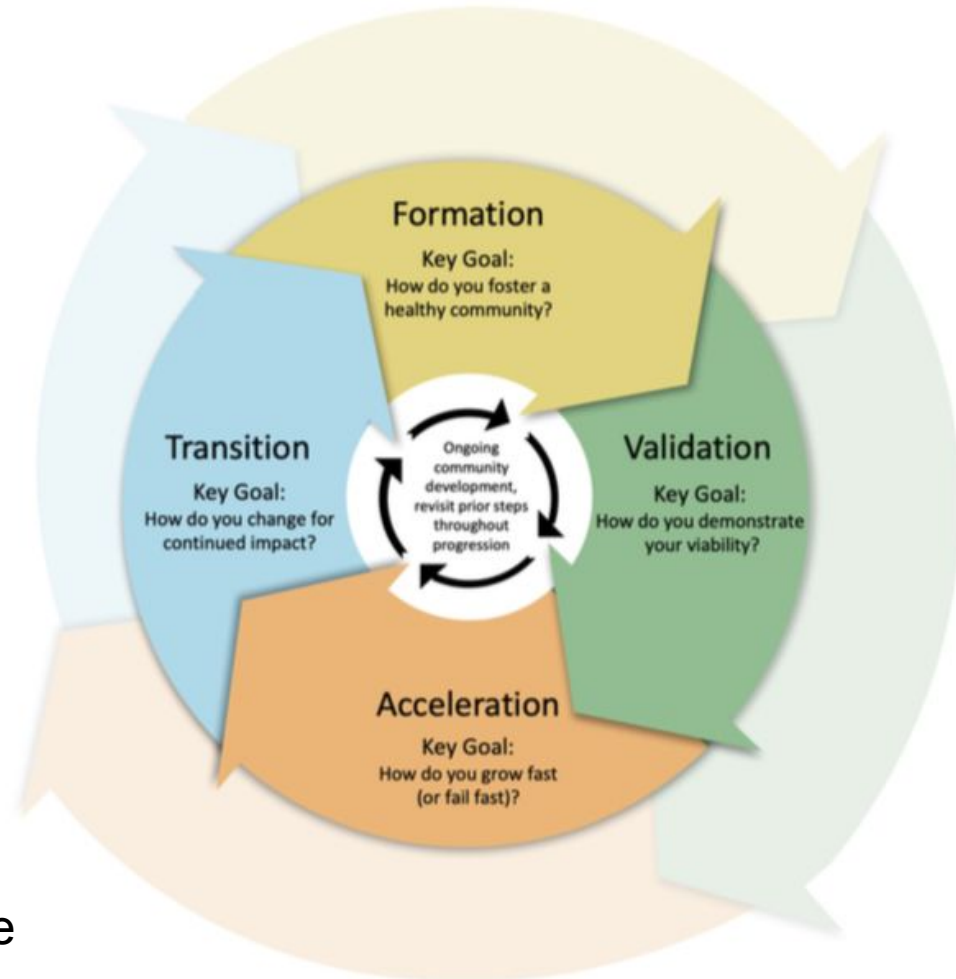
“Library clients have come to demand instant access, online, to all forms of academic information content....These broad trends have been seen as presaging a fundamental reinvention of the academic library”

- The Evolving Role of Libraries in the Scholarly Ecosystem, 2012, Webster, Keith

Educopia - Community Cultivation

Key Growth Areas:

- Vision
- Infrastructure
- Engagement
- Finances and HR
- Governance



- Community Cultivation – A Field Guide
<https://educopia.org/cultivation/>

**Content +
Open Source +
Open Standards +
Community-Based
= Sustainable Service**

Is it enough?

HathiTrust



“The mission of HathiTrust is to contribute to research, scholarship, and the common good by collaboratively collecting, organizing, preserving, communicating, and sharing the record of human knowledge.”

- **Sustain** - membership, governance, preservation
- **Open** - open standards, open source
- **Open content** - 6 million full view Ebooks out of 17 million
- **Community-Based** - 140 members

Coalition of Open Access Repositories



Vision - “A sustainable, inclusive, and trusted global knowledge commons based on a network of open access digital repositories”

- **Sustain** - international association, governance
- **Open** - documents, best practices, advocacy
- **Community-Based** - 140 members, 6 partners

Readium



“The fundamental goal of the Readium project is to produce a set of robust, performant, spec-compliant reading system toolkits that support digital publishing formats (e.g. EPUB, Web Publications etc.) and can be deployed in browsers or built into native apps on iOS, Android or the desktop.”

- **Sustain** - membership model, governance
- **Open** - open source, open standards, open protocols
- **Community-based** - 40 participating members

OpenEdition



“OpenEdition is run by the Centre for Open Electronic Publishing (Cléo), a public and non-profit initiative supported by prestigious research organizations. Its overall aim is to promote open access digital publishing.”

- **Sustain** - membership, governance
- **Open** - ebooks, journals, 150K articles
- **Community-Based** - steering committee, scientific council, user committee

LYRASIS and DuraSpace Merger



“This merger will form a larger organization that is committed to advancing services, technologies and innovations for collections holding organizations worldwide, and consciously building communities to increase our collective impact and support programs that benefit the wider field.”

- **Sustain** - membership, governance, services
- **Open** - code, standards, practices
- **Community-Based** - 1,000+ members

LYRASIS and DuraSpace Merger



- Drive scalable change, new technologies and services
- Serving 1,000+ libraries, museums and archives
- Durable, persistent access to data and services



Fedora™

VIVO

collectionspace
a community served by ✦ LYRASIS



DSPACE



samvera™



ArchivesSpace



SimplyE



CASRAI



LYRASIS Islandora
Hosting Services

**Sustaining an Open
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New Challenge

The Academic Ebook



Can We Imagine a Better Academic Ebook?

Can We Imagine a Better Academic Ebook?

- A better academic ebook experience for faculty, students, researchers, society
- Open Technology Ebook Ecosystem - **sustainable, community-based open source, standards**
- Collaborate, at scale, at international level

What are Academic Ebooks?

- **Licensed Ebooks** - University presses, academic publishers (e.g. Columbia University Press, University of Michigan Press, MIT Press, NYU Press), including enhanced academic ebooks
- **Digitized Collections** - Library efforts to preserve and provide access to collections - aggregated at HathiTrust, Internet Archive, etc.
- **Open Access Academic Ebooks** - Knowledge Unlatched, University of Michigan Press, OAPen.org, etc.

Current State of Academic Ebooks at Columbia

- 3 million Ebooks at Columbia (see tinyurl.com/cliio-online-books)
- Inconsistent user experience - multiple vendors, interfaces, technology
- Vendors developed proprietary web interfaces, proprietary mobile apps
- Licensed and open content is not available via one interface
- Content is fragmented across multiple formats, DRM and non-DRM

We need to do better!

Every dollar we spend on multiple, overlapping vendor technology platforms is a dollar not spent on building our collections.

Academic Ebook “Essentials”

1. **Common Method of Access** - simple, consistent, one login, **mobile equal**
2. **Local Discoverability** - direct link in catalog with high-quality metadata
3. **Search - Download - Read** - entire book in very few steps
4. **Great Reading Experience** - fast page turns, simple UI, search, TOC, index
5. **Scholar Tools** - citation, portable annotation
6. **Library Branding, Reporting, Administration**
7. **Stop Proprietary Mobile App Proliferation**



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

Accelerating Towards Open

Minitex
DEDICATION, COLLABORATION, INNOVATION.

\$685K IMLS Grant
for SimplyE
Academic

W3C

Web
Annotation
Standard

fulcrum

\$1.9M Mellon Grants -
U.Mich Press - fulcrum
Ebook platform

**EDR
Lab**

Radium LCP -
Proposed ISO
Standard

2015

2016

2017

2018

2019

NYU

\$786K Mellon
Grant for NYU
Enhanced OA
Monographs



Library Simplified

The Open Source Library Platform

\$1.8M IMLS Grant -
NYPL for SimplyE

opds

OPDS 1.2
Release w/Library
Lending Support

D P L A

\$1.5M Sloan
Grant to Move
DPLA Exchange
into Production

Alfred P. Sloan-Funded Feasibility Study

- **Tasks:**

- **Survey:** Winter 2019 - collected survey data from 150+ libraries
- **Research needs:** of faculty, students, libraries, publishers, aggregators
 - Conducted extensive conversations with academic community stakeholders
 - Identify use cases, stories, product and market scope
 - Meet with community participants to test and refine concepts
- **Develop Proof of Concept:** as technology demonstrator, collect feedback
- **Develop Technology & Community roadmap:** for SimplyE platform to meet academic use cases
- **Develop Report & Plan:** Present recommendations, pilot plan, business plan, governance model
- **Co-Investigators:** Robert Miller, LYRASIS, Robert Cartolano, Columbia University Libraries
- **Steering Group:** LYRASIS, Columbia University, New York University, New York Public Library, Digital Public Library of America, MIT Press, Minitex/University of Minnesota
- **Project Consultant:** James English, Product Strategist, LYRASIS

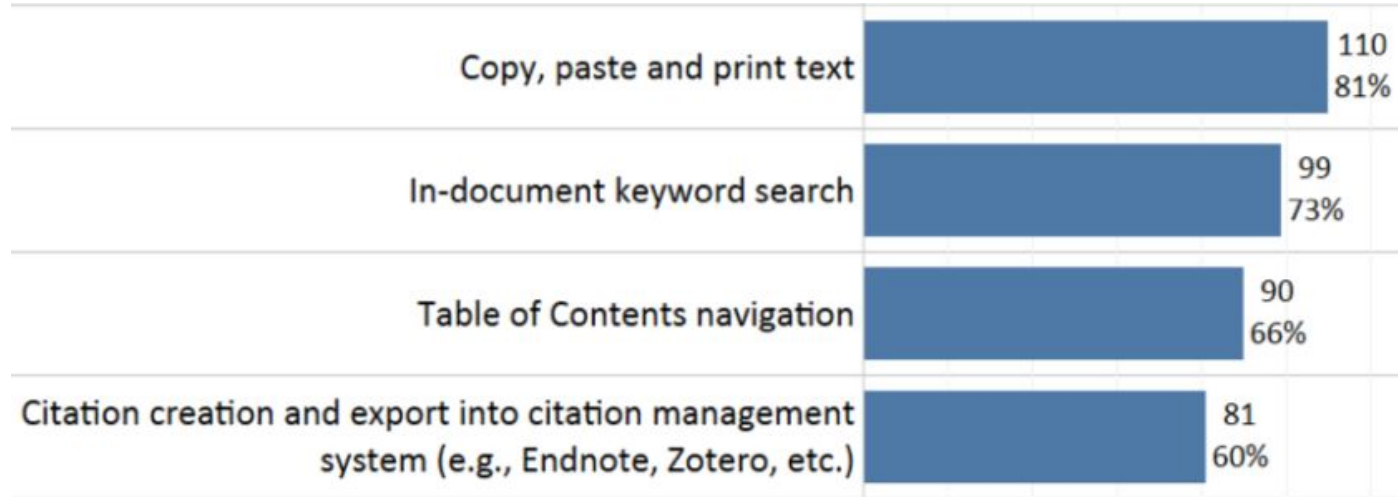
Survey Results - Media Type & Access Support

Question: Ranked Very Important or Most Important

- 78% (101/131) - **View Offline Entire Book PDF**
- 73% (95/131) - **View Offline Chapter-by-Chapter PDF**
- 27% (34/131) - **View Offline Entire Book EPUB**
- 19% (24/131) - **View Offline Chapter-by-Chapter EPUB**
- 8% (9/131) - Listen (download/stream/sideload) Audio Books
- 2% (2/131) - View Offline Other

Survey Results - User Experience - Top Features

Question: Select five most frequently used features by your academic ebook readers:

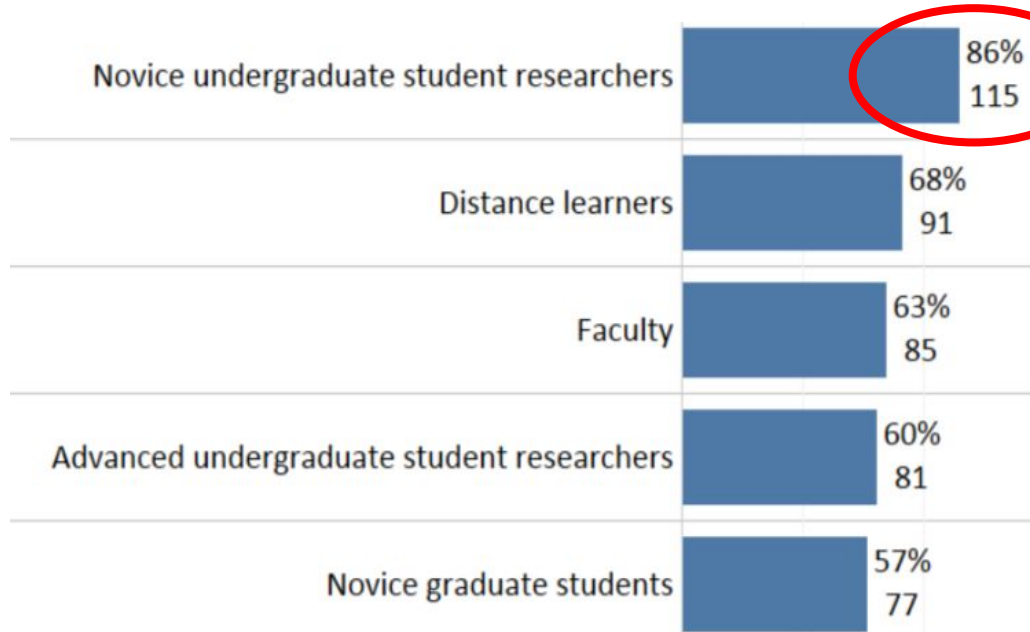


Most important features that represent **USE** of ebook as a source of information.

Survey Results - Demographic Needs

Question: Select which groups most need simplified ebooks access.

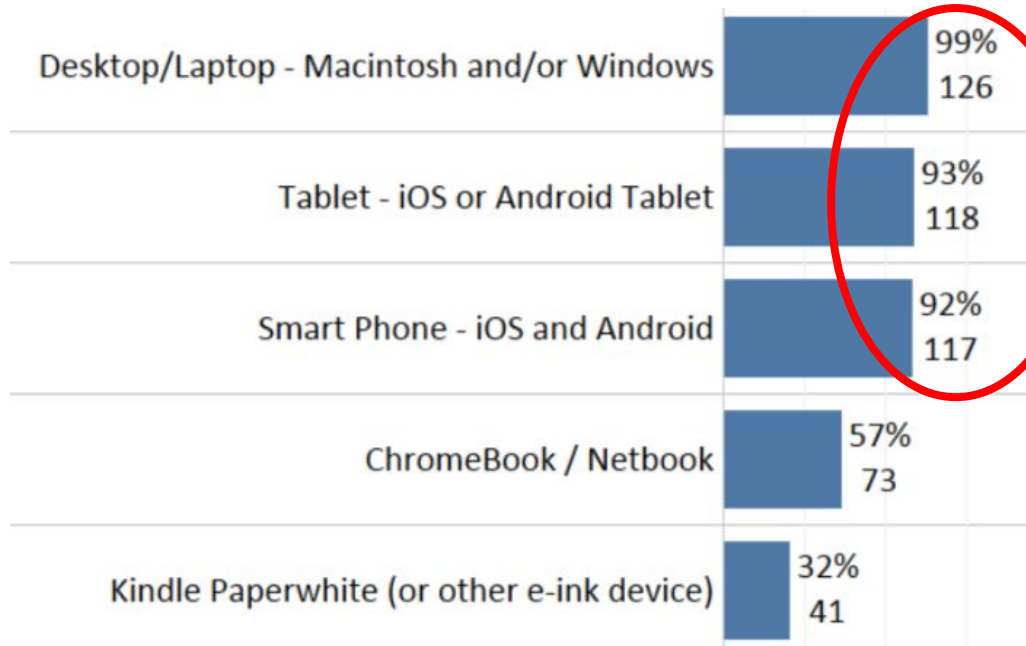
Check all that apply.



Opportunity: These results suggest that while digital natives are familiar with computers, the “tools of research” are not native to their digital upbringing as they were likely informed by “consumer” technology.

Survey Results - Device/Platform Requirements

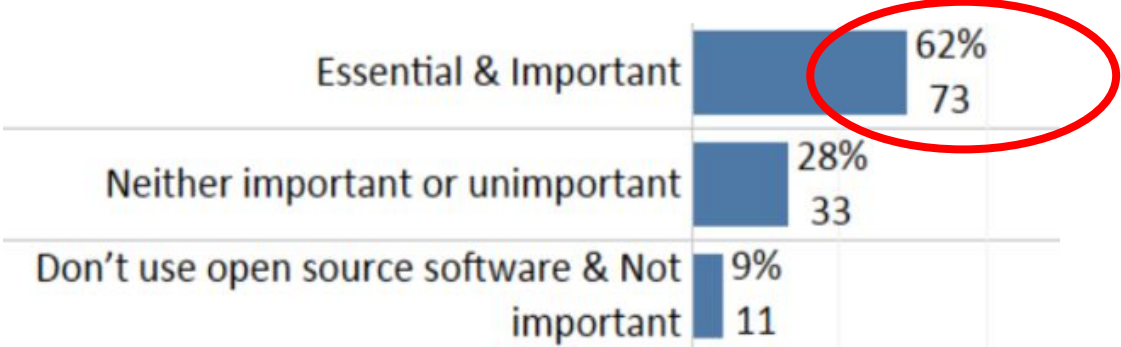
Question: Indicated devices used for academic ebooks. Check all that apply.



Opportunity: Clearly, the traditional computer now shares its importance in academia in the new age of **tablets** and **smartphones**.

Survey Results - Community-Based Open Source

Question: Importance of open source applications as part of your technology/service infrastructure.



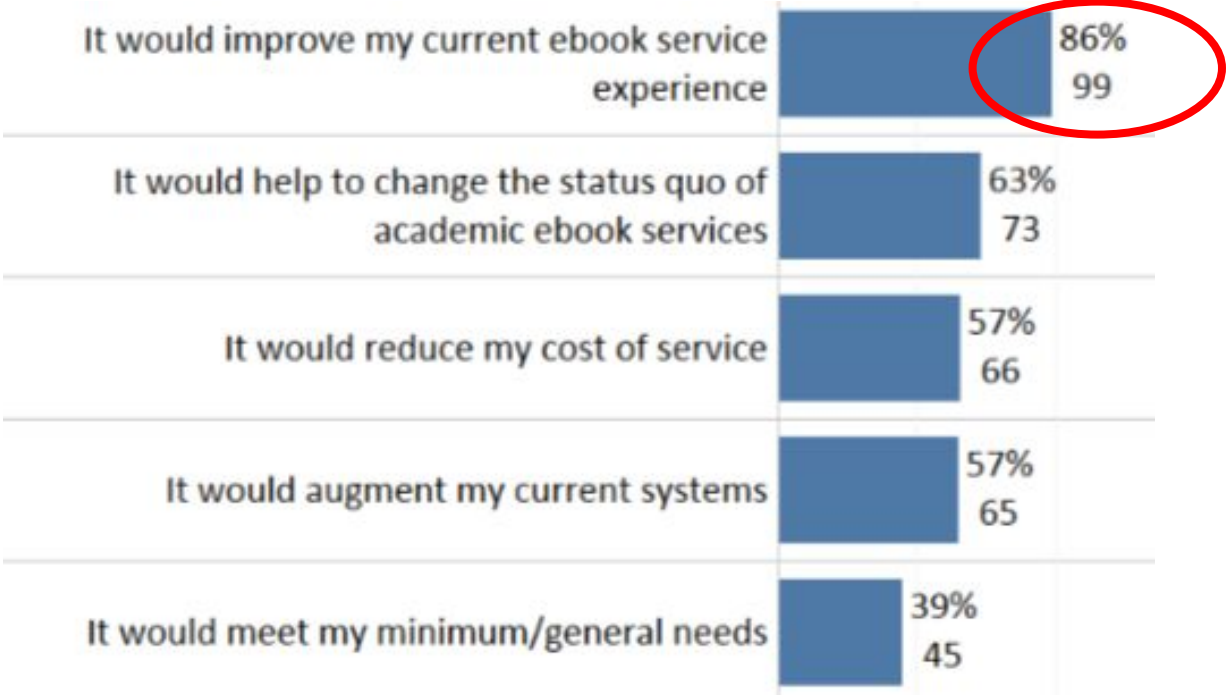
Question: How your institution implements open source solutions.



Survey Results - Open Source Ebook Delivery

Question: Under what conditions would you use open source ebook delivery platform.

Check all that apply



Develop Proof of Concept using SimplyE



- **Sustain** - explore with LYRASIS
- **Open Source** - open source - SimplyE mobile app, Library Simplified Circulation Manager, Radium
- **Open Standards** - EPUB, PDF, OPDS, LCP (proposed ISO standard)
- **Community-based** - SimplyE Libraries, Reader's First, library consortia

Vision: 1) Search

The screenshot shows the CLIO search results page for the book "Building the New American Economy: Smart, Fair, and Sustainable" by Jeffrey D. Sachs. The page is from Columbia University Libraries. The search results show the book is available online, with "Ebook Central Academic Complete" and "Read on Mobile (Beta)" highlighted in red circles. The book is also available on Google Books. The page includes a navigation bar with "Back to Results", "Previous", "Next", "Print", "Email", "Send to Phone", "Add to My Saved List", "Export", "Display In", "Requests", and "Start Over". The book details include the author, title, published date, description, subjects, and a summary.

COLUMBIA UNIVERSITY LIBRARIES Log in to... Feedback / Help

CLIO Catalog All Fields Advanced Search

« Back to Results | « Previous | 3 of 102 | Next » Print Email Send to Phone Add to My Saved List Export Display In Requests Start Over

Building the New American Economy : Smart, Fair, and Sustainable

Author [Sachs, Jeffrey D.](#)

Title Building the New American Economy : Smart, Fair, and Sustainable.

Published La Vergne : Columbia University Press, 2017.

Description 1 online resource (153 pages)

Subjects [United States > Economic conditions.](#)
[United States > Economic policy.](#)

Subjects [Electronic books.](#)

(Genre)

Also Listed [Sanders, Bernie.](#)

Under

Summary With a nation seemingly more divided than ever, many worry that Americans risk losing ground on solving the complex, interrelated problems the country faces—including rising inequality, the specter of climate change, astronomical health care costs, and economic stagnation. The renowned economist Jeffrey D. Sachs offers a practical approach to move America toward a new consensus: sustainable development. Sustainable development focuses on the economy, society, and the environment when shaping policy. A holistic approach emphasizing economic, social, and environmental objectives is key. In focus.


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[Preface](#)

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 Partial View

JEFFREY D. SACHS
BUILDING THE NEW AMERICAN ECONOMY
SMART, FAIR, & SUSTAINABLE
FOREWORD BY **BERNIE SANDERS**

Vision: 2) Borrow/Download

Columbia University Libraries [Catalog](#) [Sign In](#)

All Books > [Columbia University Libraries](#)

JEFFREY D. SACHS
BUILDING THE NEW AMERICAN ECONOMY
SMART, FAIR, & SUSTAINABLE
FOREWORD BY BERNIE SANDERS

**Building the New American Economy:
Smart, Fair, and Sustainable**

By Jeffrey D. Sachs

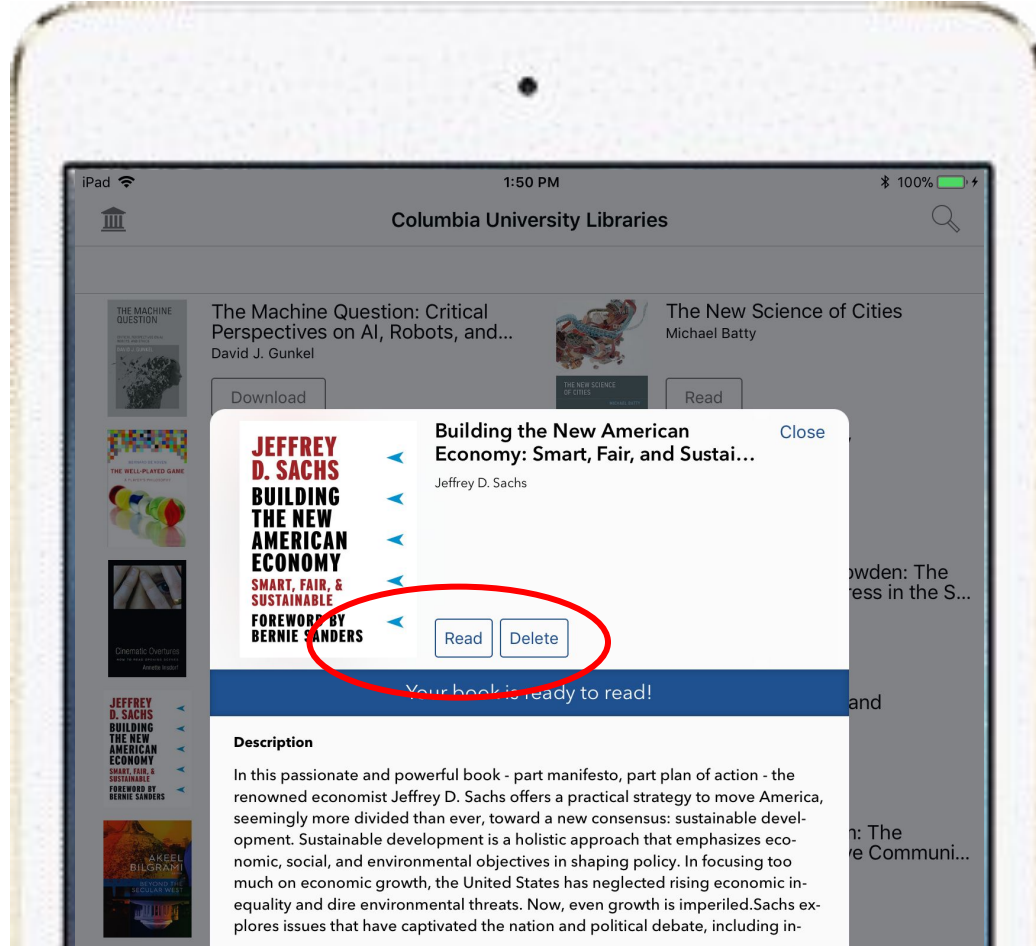
Publisher: Columbia University Press
Categories: Nonfiction
Audience: Adult
Distributed By: Columbia University Libraries

eBook

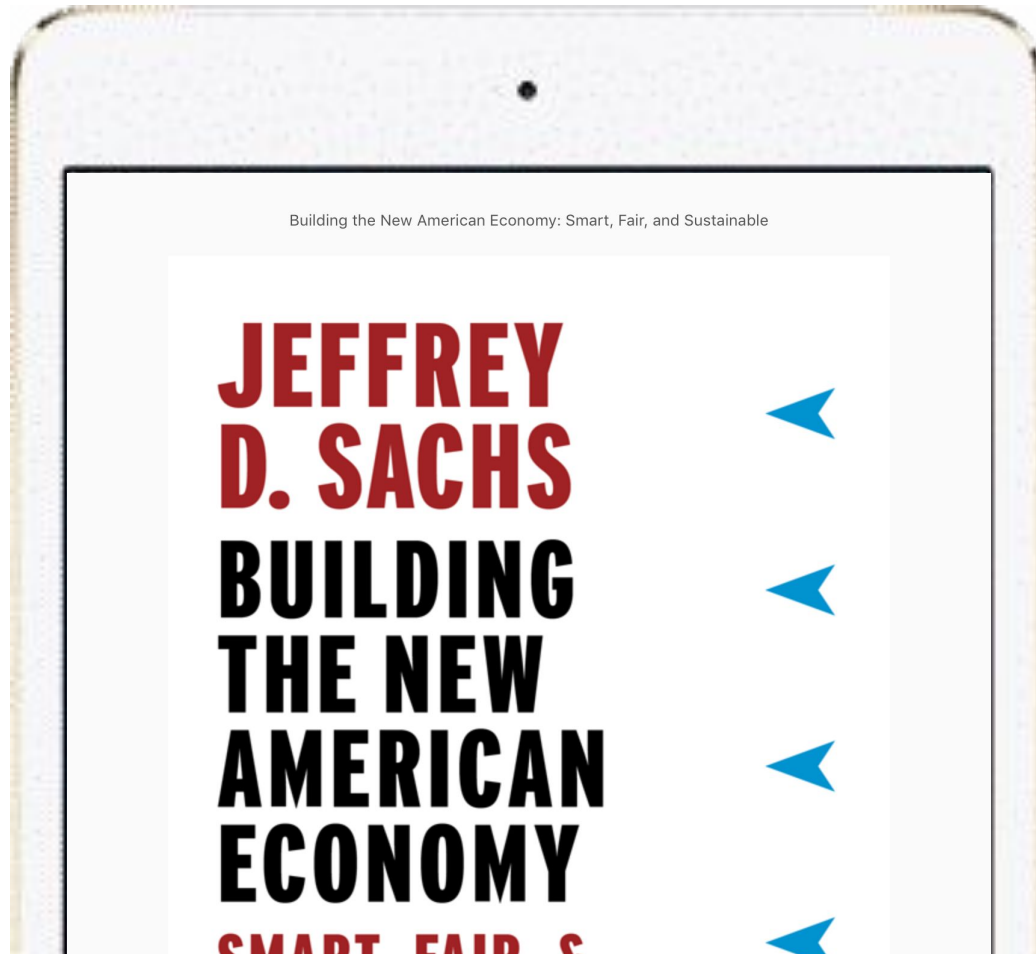
[Report a Problem](#)

This open-access book is available to keep.

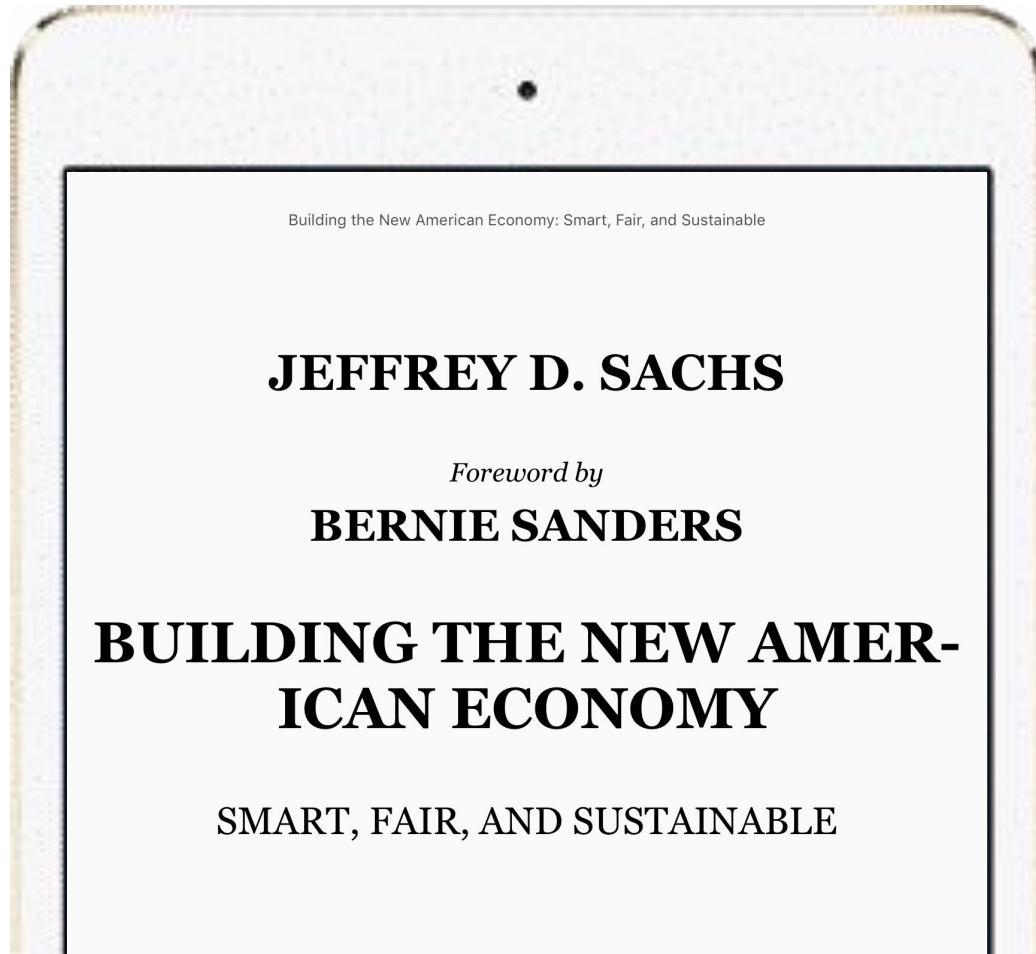
Vision: 3) Read on Web, Tablet & Phone



Provide a Great Reading Experience



Provide Offline Reading Capability



Building the New American Economy: Smart, Fair, and Sustainable

JEFFREY D. SACHS

Foreword by

BERNIE SANDERS

**BUILDING THE NEW AMER-
ICAN ECONOMY**

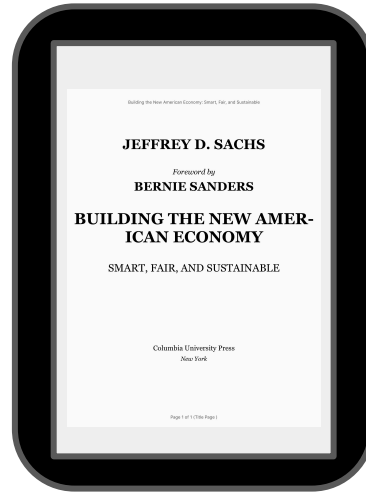
SMART, FAIR, AND SUSTAINABLE

Synchronize Bookmarks & Reading Position --- on All Devices

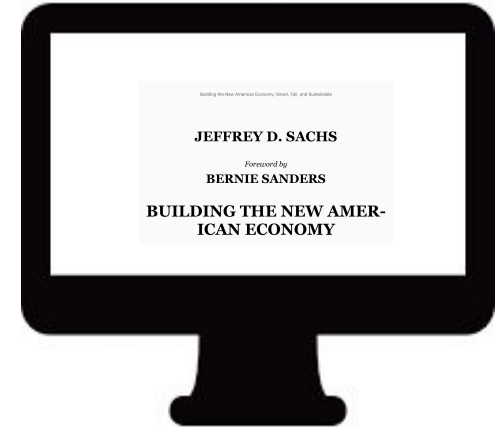
**Smart
Phones**



Tablets



Web Browser

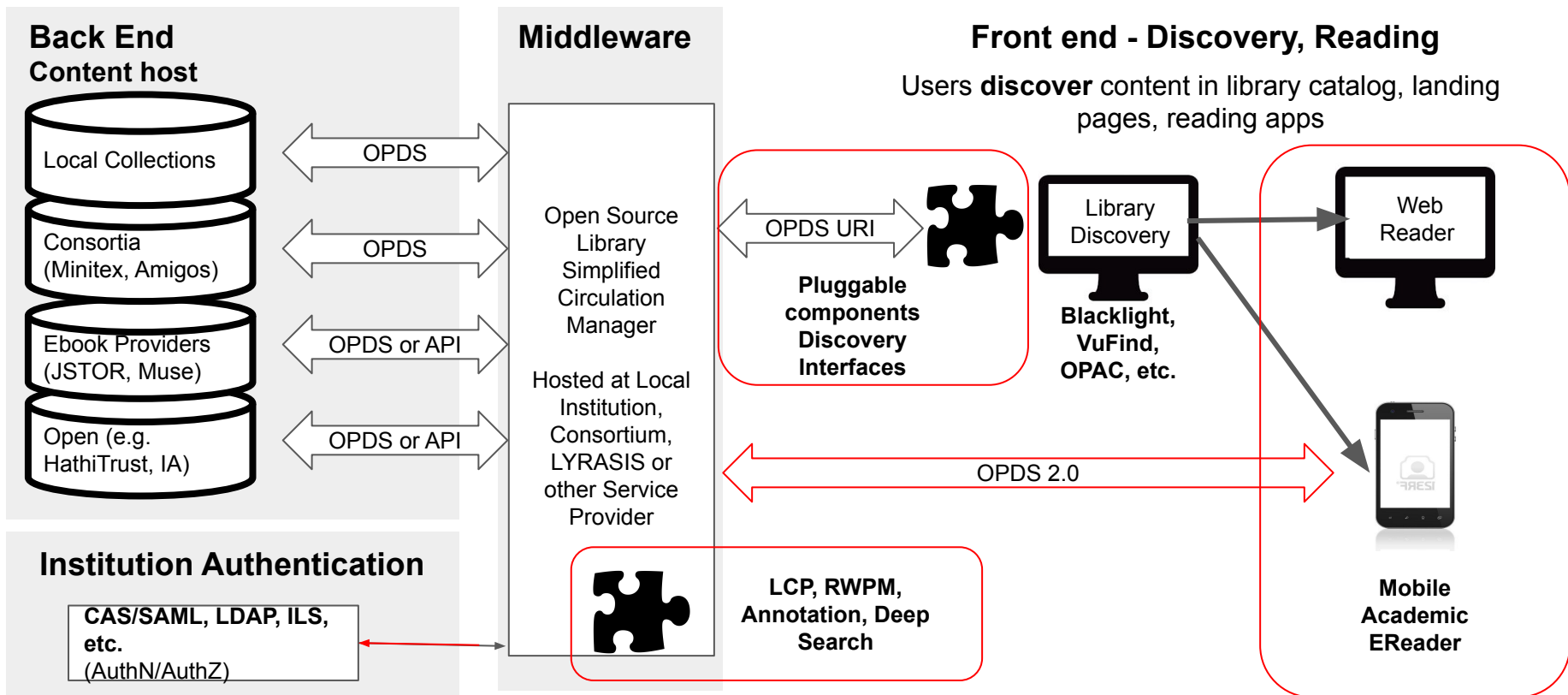


Next Steps



- **Sustain**
 - Explore next phase of grant funding
 - Develop growth, sustainability and business plan
- **Open**
 - Enable and foster open technology ecosystem for academic ebooks
 - Improve academic reading environment leveraging proven open technologies
 - Contribute to existing open source efforts to support academic needs
- **Community-Based**
 - Develop community governance models and community participation
 - Develop service and membership models to foster adoption and engagement
- **Scholarly Ecosystem** - connect ebook providers to academic libraries
 - University Presses, Publishers
 - Digitized Collections
 - Open Access Ebooks

Next Steps: Develop Academic E-Reader Platform



Summary

**Can We Sustain an Open
Scholarly Ecosystem with
Community-Based Open Source**

Yes!

Let's do it together!

Discussion