Is E-reading Environmentally More Sustainable than Conventional Reading?
Evidence from a systematic literature review

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Sustainability and going green

- Environmental issues are one of today’s growing concerns
- Sustainability and going green is a popular trend
- Green is more than a color.
The 2030 Agenda for Sustainable Development
IFLA Green Library Award & AIA/ALA Library Building Award

IFLA Green Library Award

From websites
Which one do you think is **Greener**?
Are E-Readers **Greener** Than Paper Books?

E-Readers (i.e., Kindle, iPad, Computer)
Digital reading

Printed book, newspaper, journals, etc.
Traditional reading
Prevailing prejudice: environmentally preference of e-reading

- The popular stereotype is that e-reading is environmentally more sustainable than conventional.
- Digital reading saves a lot of paper, thereby saving trees.
- However, many studies have shown conflicting results regarding the environmental implications of both formats (Print, digital).
- Given these controversies, we conducted a holistic review of findings comparing paper reading with screen reading from an environmental perspective (Kang et al., 2021).
Environmental aspects of digital reading

- Digital reading is part of the extensive use of ICT (Information and Communication Technology) throughout the lifecycle of creation of content to its access and use.
- The increasing use of ICT can have a significant amount of environmental impact and increase GHG emissions (Chowdhury, 2012a, 2012b, 2012c, 2013).
- Many studies have conducted a life cycle analyses (LCAs) for a variety of ICT products and services to assess their environmental impacts, and their results reveal that ICT products have both positive and negative environmental impacts (see Achachlouei, Moberg, & Hochschorner, 2015; Hischier, Achachlouei, & Hilty, 2014; Moberg et al., 2010).
Findings and conclusions

- Mixed conclusions/Inconsistent results
- Depending on various parameters
  - Parameters of user behaviors
  - The number of readers
- Digital reading also has its own negative environmental impacts
- Not enough evidence to definitively conclude which format — print or electronic — is better when considering environmental sustainability.
GHG emissions from paper books and e-books

- As shown in Figs. 2 and 3, the greater the number of users per book, the more beneficial it is to read from a printed book.

**Fig. 2.** GHG emissions after the reuse (reread) of paper-book and e-book read by various devices. (own work, adapted from Tahara et al., 2018).

**Fig. 3.** GHG emissions after the reuse (reread) of paper-book and e-book read by various devices. (own work, adapted from Tahara et al., 2018).
Suggestions

- Print and digital formats complement each other to motivate and support users' information needs.
- Encourage libraries to adopt sustainability principles and practices in libraries and enhance their environmental concerns.
- Sharing digital reading devices in physical library or lending to homes.
- Walking to visit the local library for materials circulation and public facilities usage would be a better option to reduce negative impacts.
References


Future Reading


• IFLA Green Library Award. https://www.ifla.org/g/environment-sustainability-and-libraries/ifla-green-library-award/
Thank You!

Any Questions?