

# Technological Developments in e-Publishing

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# Course Objectives

- **E-Publishing:** e-publishing models and developments in e-Publishing
- **e-Books:** Various formats, Hardware, Software
- Issues related to e-books

# e-Publishing

- **What is e-Publishing?**

Distribution of information, art or software delivered electronically via internet, CD-rom or electronic devices.

- **Why e-publishing?**

Allows publishers to deliver content to readers quickly and efficiently.

Immediate access to information whenever and where ever we are.

Interactive and add scientific value by providing links to related topics, images, figures, links to other useful sites, databases.

High global visibility to publishers, scientists and the publishing chain.

- **How?**

Using a variety of delivery methods: e-books, email, e-newsletter, POD, Web Publishing, CD-ROM, Electronic ink.

New technology: hardware and software

# E-Publishing

Includes a variety of publishing models

- electronic books
- print-on-demand
- electronic ink
- email publishing
- web publishing

# e-Publishing: delivery methods

- **E-Books**

Electronic version of books delivered to consumers in digital formats. Special software is required to read e-books. Market growing specially in universities and educational institutions.

- **Print-O-Demand**

Method of printing books which allows books to be printed one at a time or on demand. Savings in print costs, expensive technology and is an intermediary step between regular method of printing paper book and e-book.

# e-Publishing: delivery methods

- **Electronic Ink**

Developing technology, Will have huge impact on the media and publishing industries. Used to create newspaper or book that updates itself. Could be used on bill boards, clothing, walls of homes to allow content to appear. E.g: E-Ink & Xerox.

- **E-mail Publishing**

Newsletter in electronic formats. Reader receives news items, articles, newsletters in their e-mail box. E-Newsletter has picked up and every company is using this technology with mailing list and discussion list.

- **Web Publishing**

Not a novel practice any longer. HTML is the most widely used web programming language. XML is also being used. All companies have website with web content.

# Developments in e-Publishing

## E-Publishing in the last decade

### e-Books

- 1990 – rapid expansion, capital spent on digitization specially in US
- Lessons learnt – content was not right, reading experience unsatisfactory and business model unattractive
- Publishers – preparing for e-book publishing

**Examples:** Taylor & Francis (2001) digitize 15000 titles; Sony & Philips launched electronic devices; Philips & e-Ink Corporation developed new display that can be read at any angle and in any light.

# Developments in e-Publishing

## e-Journals

- 1995 – First appeared. Project Muse from John Hopkins University Press and Electronic Collection Online (ECO)
- 1997 – e-journals supplied by most publishers, universities had infrastructure to support.
- However the usage and access policies for all still remain an issue.

# Developments in e-Publishing

## E-Publishing in the 21<sup>st</sup> Century

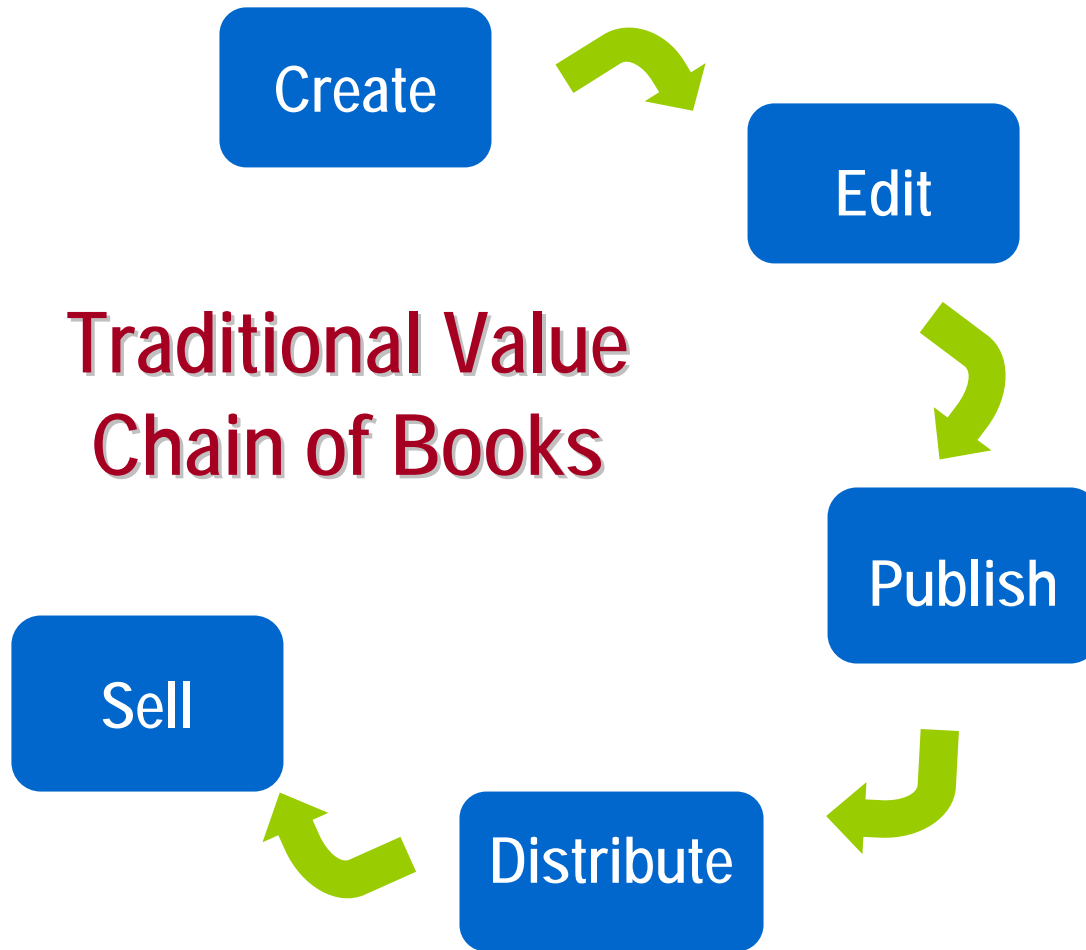
- Potential Challenge for fixity, standardization and methods of dissemination.
- Circular model of relationship between players – knowledge creators, knowledge distributors, knowledge users.(Feather 2003)
- World of “multilinearity, nodes, links and networks” for readers. (Landlow 1997)
- Change in the role of students, teachers, assignments and evaluation and universities and in the publishing chain.
- Growth in textbooks, manuals, reference books and professional books and university presses are at the cutting edge of electronic publishing.

# Developments in e-Publishing

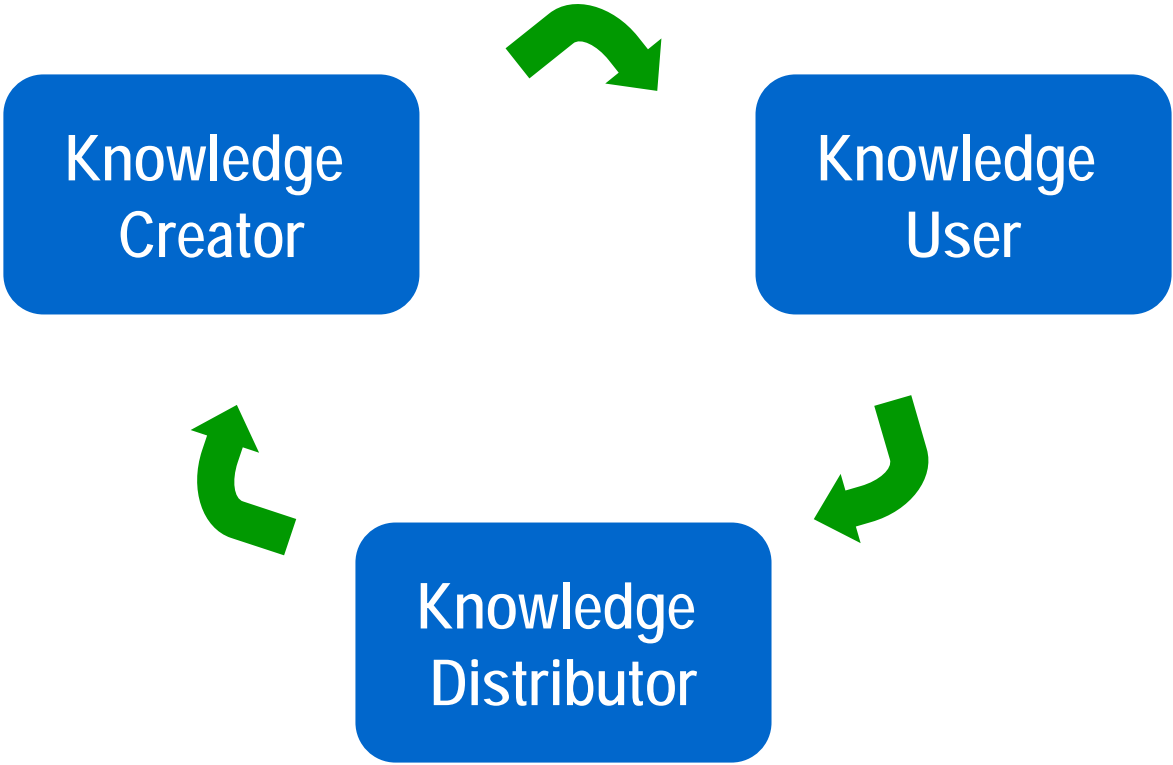
## Media Developments

- Transformation into digital media – radio, television, newspapers, photography, music and movies.
- Media and telecommunication converging towards access and control of internet.
- Network and digital media give traditional media new ways of distributing content
- Multimedia and audio visual interactive educational aids – classics, games and textbooks.

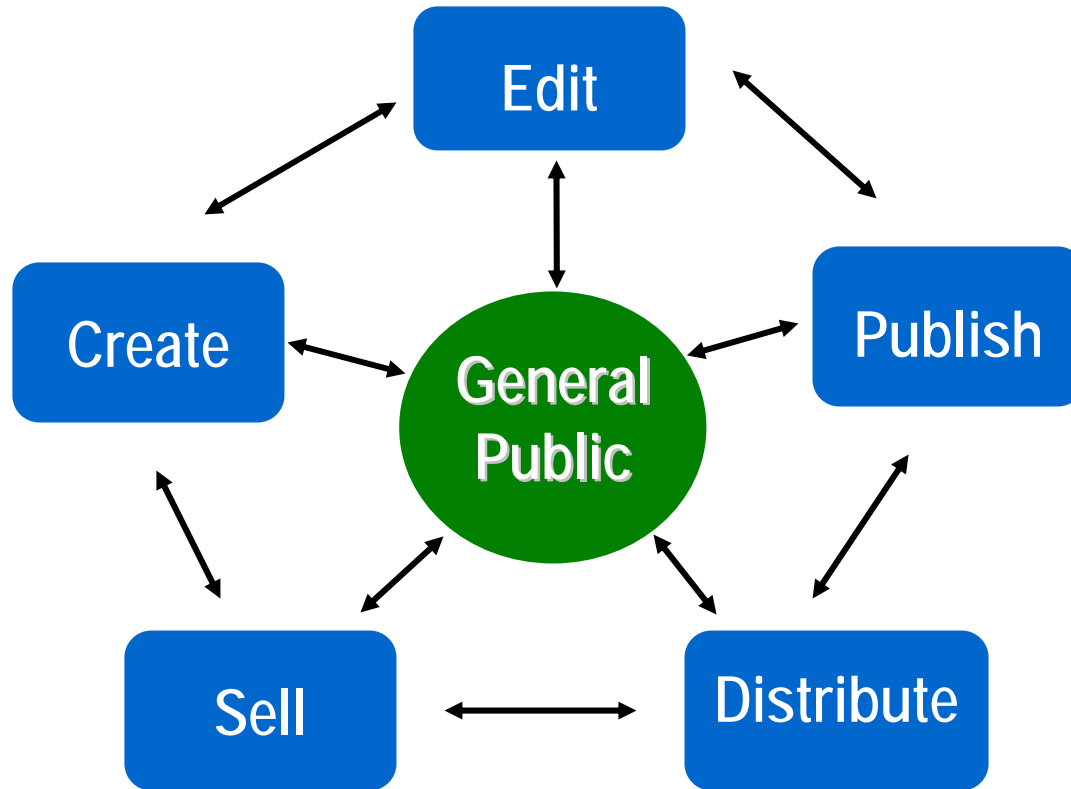
## Traditional Value Chain of Books



# e-Publishing: an interactive model



# E-Book Value Chain



# E-Books

- Introduction & their components
- Hardware, software, formats
- Issues related to e-books

# What is an e-book?

"e-book" is an electronic version of a book available in electronic format.

- Downloaded and read on an electronic device like a desktop or note-book computer or an e-book reader or a dedicated portable device
- Interactive content like bookmarks, hyperlinks and multimedia
- Available in Adobe PDF or e-book Reader format, or in Microsoft's LIT format
- Versatile, portable and convenient to handle.



## Why e-books?

Can be read on a broad range of computer platforms

Specially designed to read online

Preserve exact look and feel of source documents including page layout, fonts, color and images

Good navigation features (bookmarks & links) unlike hard copy turning back and forth

Easy upload for packaging and distribution (for large Documents using content server)

Less storage space required

Compact files can be easily mailed, delivered, downloaded from websites and transferred between reading devices with no loss of quality

# e-Book versus Paper Books

## Paper Books

- Long-lasting cultural icon
- “Paper and ink have excellent characteristics of storing and conveying information”
- It is the primary source of textual information
- People are aware of how to use, mark their place, annotate, organise and get information
- Easy to use, generally portable and resistant to damage
- Costly to produce, store, distribute, update and search

## e-Books

- Comparatively new technology
- Easy to store and to read due to lighting situation
- Can be read on any system with special software
- Ability to search & interact with text easily & widespread accessibility through internet
- Easy to use, easily updated, highly portable & durable
- Timely & cost-efficient distribution, cheap to manufacture, easy to store & distribute
- Difficult to download, hardware & software limitations

**e-books and print books are able to complement each others strengths & weaknesses quite well.**

# The Market for e-Books

- Seen by libraries as another resource to facilitate remote and onsite access
- Increase in publishing activity (publishers & aggregators)
- But research found slow penetration of the academic market
- Internet
- Value added services such as information on a single specialised topic available in single information capsule.

# Components of e-books

There are three components of e-books

- Hardware – device called readers (desktop, laptop, handheld, PDA)
- Software – running a software program that displays book on screen
- e-book file – contains all document content pictures and other information

# Technological Aspects

- E-books applies to several different aspects of the technology
  - e-book data file format
  - e-book content manipulation software
  - e-book viewer and download software
  - e-book reader equipment

# What can you convert to e-books?

- Word Documents (MS Word 97, MS Word 2000)
- MS Excel (Excel 97, Excel 2000)
- PowerPoint Presentations (PowerPoint 97, PowerPoint 2000)
- Ventura
- Pagemaker

How do you convert?

Adobe Acrobat 5.0

# e-Book Formats

- Open Formats: Allow to get books from other companies to read on your machine. E.g. Microsoft Reader, Acrobat Reader
- Closed Formats: Make use of their own make of e-books. E.g. Gemstar REB

**Advantages:** Market has many competing formats and Reader can read a wide range of books on many devices.

**Disadvantages:** No standard format; no inter-convertibility of formats; intense competing commercial pressure; high cost for libraries and publishers tie readers to a particular file format thus holding the growth of e-books in the last decade.

# File Formats





















DOC	Aportis Doc
.doc	Microsoft Word
.ebx	Adobe Acrobat eBook reader
.html	Hypertext Markup Language
.kml	Hiebook
.lit	Microsoft reader
.lwp	Lotus Word Pro file
.pdb	Palm Doc format
OeB	OpenE Book Specification
.pdf	Adobe PDF format

.prc	For Palm OS devices, Palm Reader Format
.rb	For Rocket eBook
.sdw	Star Office text file
.seb	Franklin eBook format
.rtf	Rich text file
.tk3	Mutimedia files
.txt	Plain text
.wpd	Word perfect document
.ubk	Encrypted file type for Embiid Reader

# e-Book Formats

- **HTML or Plain text:** can be read on a web browser, personal desktop or a laptop computer . Also on handheld devices that are equipped with modified web browsers or various other e-readers software such as Internet Explorer, Netscape, Firefox, Opera, Tom's eText Reader and Ybook Reader
- **PDF:** can be read in Acrobat Reader, Microsoft Reader or Palm Formats and downloadable free software that can be installed on a computer or handheld devices
- **.lit files:** can be read on Microsoft Reader for Desktop, Laptop PC, Pocket PC and Tablet PC
- **.prc & .pdb files:** can be read on eReader, CspotRun, HandStory Basic, and Qvadis Express Reader Lite
- **Multiple Format Readers:** AportisDoc, MobiPocket Reader, Ubook, Acrobat Reader

# Format Comparison Chart

Format	Advantages	Reader Software	Navigation	Images	Platforms
	Cross-platform compatibility, printable, single or double page view		Library, Table of contents, Chapter links, bookmarkable	Yes	Windows PC, Macintosh, Palm
	Dedicated reader for e-books, carry titles with you		Library, Table of contents, bookmarks	Yes	Gemstar & Rocket e-book devices
	Dedicated reader for e-books, includes lots of other programs		Library, Table of contents, bookmarks	Yes	hie-book devices
	Easy to use, customizable, can be read on anything with a browser		Hypertext links	No	Windows PC, Macintosh, Linux, Unix, Palm, Pocket PC, e-bookMan
	No special reader software required (only Internet Explorer), easy to use		Hypertext links	Yes	Windows PC
	ClearType Display Technology, book-like reading environment, bookmarks and annotations		Library, Table of contents, Chapter links, bookmarkable	Yes	Windows PC, Pocket PC
	Familiar environment, printable, resize text		Hypertext links	Yes	Windows PC, Macintosh
	Can be used on any PDA		Library, Table of contents, Chapter links, bookmarkable	Yes	Palm, Pocket PC, e-bookMan, Windows PC
	Very simple and plain, can be read on just about anything, printable		None	No	Windows, Macintosh, Linux, Unix, Palm, Pocket PC, e-bookMan
	Great e-books for your PDA		Library, Table of contents, Chapter links, bookmarkable	No	Palm OS, Pocket PC, Handheld PC, Windows CE, Windows PC

# E-book Hardware

- Desktop, Laptop computer
- Handheld devices such as Franklin e-bookman, Hieman, Gemstar e-book service, etc.
- PDAs such as handspring, pocket PCs, Palm Pilot
- iPods, Playstation Portable

# E-book Hardware

- **Desktop, Laptop:** workstations available at workplace or laptops that can be carried with you.
- **Handheld devices:** devices that you can carry along with you. such as Franklin e-bookman, Hieman, Gemstar e-book service, etc.
- **PDA:** Personal Digital Assistants or PDAs, are handheld computing devices which can also be used for reading e-books or digital content. Some of them are handspring, pocket PCs, Palm Pilot
- **iPods, Playstation Portable:** Workstations that allow you to read and listen e-books

# E-book Software

- **Software to create e-books:** Microsoft Word, Photoshop, Corel Draw, Microsoft Excel, Microsoft PowerPoint, Ventura, Pagemaker
- **Reader software:** Adobe Acrobat e-book Reader, Adobe Acrobat, Embeed Reader for Windows, Flip viewer, MicrosoftReader with Clear Type, Mobipocket Reader, Palm Reader, Nokia 9210 Communicator e-book Reader 2.1
- **Author software:** Adobe Content Server, E-book HTML Compiler Pro and Pro Plus, E-ditor, Exe-book Self Publisher, Mobipocket Publisher, ReaderWorks Publisher

# E-book Software

**Reader Software:** allows users to display and interact with compatible e-book titles and content on personal computers and/or mobile reading appliances. Most reader software is free and can be download from the Web sites that are linked in the following list.

- **Adobe Acrobat eBook Reader:** pdf e-books in full colour with high quality and design
- **Embiid Reader for Windows:** reads .ubk files and .txt files, supports file types in any fonts
- **Flip Viewer:** view flipbooks & read novels, magazines, photo albums
- **Microsoft Reader:** first eBook software with ClearType™ technology used to smooth screen fonts on LCD displays

- **Mobipocket Reader:** for Windows CE Palm-size PC, HPC, HPCPro to create MobiBook compatible e-books
- **Nokia Communicator eBook Reader:** viewer and organizer for electronic books, can view with with TXT and plain HTML format
- **Palm eBook Reader:** reading e-books in the PML (Peanut Markup Language) format , compatible with all handheld devices
- **Teal Doc:** support for doc files stored in external Virtual File System (VFS) devices like Memory Stick and SD/MMC storage cards
- **TK3 Reader:** read multimedia documents created with TK3 Author
- **Weasel Reader:** document reader for the Palm Pilot organizers

# E-book Software

**Authoring Software:** provides the tools needed to create e-book titles and content in formats that can be read on personal computers and/or e-book reading devices with compatible reader software. A list of companies that develop and sell e-book authoring software follows.

- **Adobe Content Software:** easy for everyone from individual authors to publishers, distributors, and retailers to prepare and sell eBooks
- **eBook Pack Express 1.5:** converts HTML, JavaScript, VBScript, Flash and ActiveX files into stand-alone, compressed and encrypted eBooks, Helps or Presentations
- **E-ditor:** helps users to create original products, add to product line, or simply use as unstoppable traffic generators for websites

**Embiid Writer™ for Windows:** quick-loading application that allows the user to create encrypted Universal Book Files for use with the Embiid Reader™

**Mediapacker eBook Compiler:** allows you to create your eBooks written in HTML or TXT format building a very portable and compact executable file

**MobiPocket Publisher Personal Edition:** makes eBooks which can be read on all WindowsCE/PocketPC, Palm OS, Psion/Epoc32

**ReaderWorks Publisher:** builds commercial eBooks for Microsoft® Reader with ClearType™

**Night Kitchen TK3 Author:** creates "books" that look the same on different computer screens and embody the best features of print books

**ExeBook Self-Publisher™:** converts manuscript to an ExeBook™ that works on all Win32 platforms

# Specialty & Disability e-Reader Software

- **CAST eReader:** text to speech reader, adds spoken voice, visual highlighting, document page navigation
- **Copernic Summarizer:** analyses text, pinpoints key concepts and produces allegedly concise & accurate summaries
- **DAISY:** digital talking books for blind or print disabled, digital audio books
- **Embiid Reader for Windows:** designed for vision impaired in mind, designed for proprietary Embiid file format
- **Smart Reader:** cross-platform, java-based designed for use with interactive mathematical, scientific and engineering text

- **e-Monocle Reader:** designed to read e-books conforming to the Open eBook (OeB) file specification, provides assistance to low-vision, dyslexic, scotopic and blind readers
- **SVG Viewer:** scalable vector graphics for use with maps and highly detailed images
- **Text Aloud:** boon for visually impaired, converts etext to audiobooks for use or saves as MP3 files
- **TK3 Reader:** read multimedia documents created with TK3 Author, specially for kids books
- **Tumble Reader:** interactive animated picture books for kids, includes text, music and narration.

# Issues related to e-Books

- **Readability:** reading process 25–40% slower on screen, need to use font-rendering technology, appropriate font size, digital characters on LCD screens and typography (placing of words) and formatting not good.
- **Inter-convertibility of formats:** too many formats with readers, one reader cannot read another format, e.g. .lit to pdf; pdf to html
- **Non-availability of a single format that can read all e-books:** publishers tying readers to a specific file type or hardware reader; need for Open e-Book specification such as XML / HTML standard
- **Technological issue:** portability, connectivity to digital content, storage, screen resolution, connectivity to multimedia such as phone, e-mail, audio, video

# Issues related to e-Books

- Battery life: the reader time required to download an e-book is limited, memory & bandwidth to download e-book must be appropriate, longer readability time and reduced size and weight of the battery
- Compatibility issues: readers support to read graphics, charts and pictures, download times for graphics
- Content software which can download digital content of interest: downloading software for specific titles
- Confirm to relevant standards: Need to have an Open e-Book standard for e-book reading options, fonts, hardware, software, formats

# Compatibility Issues

- **Font issue:** screen friendly fonts, substitute fonts
- **Lack of standard format:** margins, color, page size
- **Reproduction of graphics, equations and tables:** thumbnail with hyperlink, zoom facility, visibility, clarity
- **Usability issues:** hypertext cross-references, full-text search, integrated dictionary

# Issues related to e-books in libraries

- Implementation and Policy Issues
- Collection development issues
- Lending issues
- Cataloging of e-publications
- Preservation and Archival issues
- Obsolescence issues
- Indian e- Publishers and authors and suppliers

# Problems related to use of reading devices in libraries

Problem Area	Issues	Examples
Technological	Standards	Need to check out for more than one type of device to read all the titles More efforts involved in converting e-text into e-books which are device independent
	Memory Size	Lack of sufficient memory to download many titles and juggling of titles between different devices
	Downloading Methods	Varied between makes of devices some use a computer, some use an analogue phone line
	Display Quality & graphics support	Clarity of the screen definition and the inability to read graphs, charts and pictures
Human Factors	Users	Unhappy to utilise different devices to read all required titles
	Staff	Staff training on how to locate titles & troubleshoot devices Change of roles from shelving to reghosting and reloading e-books on devices.

Problem Area	Issues	Examples
Library Policy & Procedure	Acquisition	<p>Negotiations needed for license arrangements</p> <p>Need to purchase different devices to offer the widest range of content and inconvenience of downloading titles as each title had its own e-mail account</p> <p>Payment methods not conforming to library practices.</p> <p>Buy titles and load onto individual devices required input from both systems and acquisition staff</p>
	Cataloguing	<p>view all e-books to catalogue them as vendor's listings were inadequate</p> <p>procedures are to be adapted so that patrons could determine easily which titles were on which reader</p>
	Circulation	<p>Physical problems with devices &amp; accessories requiring check in &amp; check out &amp; need for insurance &amp; statement of user responsibility</p> <p>Need to balance clients gaining advantage from the device's mass storage ability against rotating them to waiting patrons.</p>

# Resources

1. Electronic Book Web – *eBook Primer*, <http://12.108.175.91/ebookweb/primer>
2. Louise Edwards. 2005. *Electronic Books*, International Year of Library and Information Management. Pp. 149-164. 2005.
3. Feather, J. 2003. *Communicating Knowledge: Publishing in the 21<sup>st</sup> Century*, Munich, K G Saur.
4. London, G.P. 1997. *Hypertext 2.0*, rev.edn, Baltimore, John Hopkins University Press.
5. Kist, J. 1987. *Electronic Publishing: looking for a blueprint*, London, Croom Helm.
6. <http://www.firstmonday.dk/issues/issue6-10/hillesund/#note16>
7. <http://www.firstmonday.dk/issues/issue6-10/hillesund/#note18>
8. <http://www.firstmonday.dk/issues/issue6-10/hillesund/#note19>
9. [http://www.free-ebook.net/ebook/147\\_epubtips.pdf](http://www.free-ebook.net/ebook/147_epubtips.pdf)
10. <http://www.integrativeink.com/html/articles/hrdandsoftware.phtml>
11. <http://visual-tool.net/blog/ebooks/ebooks.doc> *eBooks: Is Gutenberg Rolling Over in His Grave Yet?* Management 266 A, Product Strategy in the Digital Economy, Spring 2001, Professor Cooper. Prepared by Wesner Moises, Mark Pedro, Shawn "Sly" Young.
12. O'Leary, M. 2001. *E-book Scenarios Updated*, Online, 27(5), <http://infotoday.com/online/Sep03/olearyshtml>

Thank you