Libraries in a Digital Age
Fundamentals and latest thinking: an Introduction

Adaptations to a new reality

- Debate
- The discussion should be widened to involve the larger academic community
- It is difficult to imagine what an academic library will be, and do, in another decade

History: legacy or chains

"Without words, without writing and without books there would be no history; there could be no concept of humanity"

Hermann Hesse
Swiss (German-born) author (1877 - 1962)
The environment

- Instant and universal gratification
- Changing research methods
- Changing student habits
- Financial pressures
- Failure of librarians
- Fragmentation of resources

The good old days...

- Throughout these four thousand years we have often been buffeted by the great waves of change, but never yet capsized.

- It is easy to forget that today's 21 year-olds spring entirely from a digital world.
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Action man:
available from all good bookshops...

- Leonardo da Vinci
  was the original Renaissance man;
  he was a master of painting, science,
  language and the inspiration
  for Leonardo DiCaprio’s name

“This is not an incremental change
but a discontinuity”

Digital natives and digital immigrants

<table>
<thead>
<tr>
<th>Digital natives</th>
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<tbody>
<tr>
<td>Prensky, Marc (2001) Digital</td>
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<td>Do they really think differently?</td>
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<tr>
<th>Changed behaviour patterns</th>
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<tr>
<td>CIBER (2007) Information</td>
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<tr>
<td>Behaviour of the Researcher of the Future London: CIBER:</td>
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<td>Online at:</td>
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Digital immigrants

- Send postcards on holiday
- Watch TV programmes at the time they are shown
- Own an encyclopaedia or dictionary
- Buy CDs
- Check a map for a car journey
- Buy newspapers
Digital natives

- Expect research to be easy and feel they can be independent in the process
- They do not seek help from librarians and only occasionally from professors or peers
- When they can’t find what they need, they give up and assume that the information cannot be found; Students often stop after their initial searches thinking they have completed the research process and fail to choose a particular focus

OCLC study of college student perceptions in 2006

- 89% use search engines to begin a search
- 2% use a library web site
- 93% are satisfied or very satisfied with this
- 84% if librarian assisted
- Search engines fit the student life style
- Library use is diminishing
- “Books” are the library brand

Digital natives: an inexorable trend (2010-11)

- The Internet generation don’t have the attention span for jury duty says the Lord Chief Justice
- European children aged 2-5 lead their U.S. counterparts in knowing how to make a mobile phone call (44% in Italy vs. 29% for the U.S.), playing a computer game (70% U.K. vs. 61% U.S.) and operating a mouse (78% France vs. 67% U.S.)
- One in three children write their present lists to Santa using a website or smartphone app.
- More kids aged 2-5 can play with a smartphone app. (19%) than tie their shoelaces (9%)
- More small children can open a web browser (25%) than swim unaided (20%)
57% of teenagers create content for the Internet

73% of students use the internet more than the library

62% of content viewed by users under age 21 is generated by someone they know

From authority to consensus (2006)

ChildWise annual survey 2008

40% of 9 year olds have internet in their room

They have six hours of screen time a day, with 1.7 hours online

"2008 has seen a major boost in intensity"

They multitask

They are abandoning print and paper and communicate in a completely different way

Collaborative research

Blue Obelisk

Open Wetware

nanoHUB

High resolution remote artefacts

Pooled research

Sermo

Open Communities such as Innocentive

Nature Precedings

The screen versions of these slides have full details of copyright and acknowledgements
The citizen scientist

Astronomy – finding planets

- Planet Hunters
  - The NASA Kepler team's computers are looking through the data...
  - Not Planet Hunters are... seeking that there will be planets which can only be found via the remarkable human ability for pattern recognition

Naval Log Books - climate change

- Old Weather
  - An online weather data project that invites members of the public to assist in digitising weather observations recorded in Royal Navy log books during the early twentieth century.

Ancient Lives

- Visitors scour images of papyrus fragments... teasing out Greek letters that spell out the lives of people who lived in Egypt between the ages of Alexander and Jesus. The mss come from the rubbish mounds of Oxyrhynchus.

The Dempsey paradox

The Internet has reversed information seeking from:
- Time rich/ information poor
- Information rich/time poor

The good old days...
Cabinets of curiosities

- Digitising the collections we have does not of itself add value
- The need to add value is often ignored
  - Aggregation
  - Cataloguing
    - Folksonomy
  - Mash-ups
  - Ignoring the born digital

Forms of e-content

<table>
<thead>
<tr>
<th>Research papers</th>
<th>Streamed lectures</th>
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<tr>
<td>Conference presentations</td>
<td>Images</td>
</tr>
<tr>
<td>Theses</td>
<td>Audio files</td>
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<tr>
<td>Wikis</td>
<td>Digitised collections</td>
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<tr>
<td>Blogs</td>
<td>E-archives</td>
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<tr>
<td>Websites</td>
<td>E-mail</td>
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<tr>
<td>Podcasts</td>
<td>HR records</td>
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<tr>
<td>Reusable learning objects</td>
<td>Student/Staff records</td>
</tr>
<tr>
<td>Research data</td>
<td>Corporate publications</td>
</tr>
<tr>
<td>E-lab books</td>
<td>National heritage artefacts</td>
</tr>
</tbody>
</table>

- No university has a complete set of overarching policies for the management of all of its information
The failure of librarians

- Making the technology work too well
  - Libraries have hidden the complexity
- Lack of underpinning philosophy
  - No strong theoretical base of e-librarianship
- Rise of the managerial technocrat
  - From partnership to servitude
  - Driving down costs
- Complacency
  - Libraries are eternal
- Failure to engage with e-resources
  - Obsessed with licences
  - Digitising oddities = cabinets of curiosities

Outsourcing libraries?

- Why do we need librarians when it's all on the web?
- What are our USPs?
Second Life library eBooks

Microsoft's view

The Scholarly Communication Life Cycle

http://www.microsoft.com/mscorp/tc/scholarly_communication.mspx
Facing the future

- Adding Value for the User
- Adding Value to the Content
- Adding Value to the Staff
- Adding Value for the Institution

Library/Information service challenges

- Information is ephemeral:
  - 44% of websites disappear within a year
  - Wikipedia not Britannica will be the norm
  - User not expert created
  - Democratic not authoritative

- We need to manage information and access to it, NOT just store it
- EXCEPT, we need to digitise, curate, and make available corporately owned or created content
- Information fluency is a critical skill

Adding value to teaching

- Webcasting
- Wikis
- User created content
- Content management
- Podcasts
- iTunesU
Adding value to content

- Don’t compete with Google
  - Identify the niche to occupy
  - Use Google tools
- Improve Wikipedia
  - Where are Special Collections?
  - Where is e.g. Orwell Archive
- Bibliographic Integrity
  - Version control
- Metadata
  - Improving access
- Aggregation
  - Leader or follower

The great creationism debate

- Content creation versus content curation
- Community synchronisation not just information seeking
- Building community is an essential objective of curation, and social media makes it possible
- Eli Pariser and the Filter Bubble
- The importance of human intervention
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The estate

The Green Agenda
Learning spaces

How much does the Library cost
http://www.greenlibraries.org/

Learning 2.0

Adding value to staff

Professional engagement at all levels
Staff CPD
23 Library 2.0 things
Social networking

http://plcmc2-about.blogspot.com/
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Staff skills: messages from the literature

<table>
<thead>
<tr>
<th>Supporting evidence-based policy and practice</th>
<th>Expanding teaching and assessment activities</th>
<th>Assuming responsibility for organisational assets</th>
<th>Information intensity and the end-user revolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrating the value of the 'expert searcher'</td>
<td>Working with learning (content) management systems</td>
<td>Managing intranets/repositories and advising on IPR</td>
<td>Driving the need for context-specific added value</td>
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Dual career paths: a possible scenario

<table>
<thead>
<tr>
<th>Technical 'infostructure' specialists</th>
<th>Functional 'biz-focus' specialists</th>
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<tbody>
<tr>
<td>Designing, developing, managing and supporting the organisation's information infrastructure</td>
<td>Aligning information to business and personal needs, applying information solutions to client problems</td>
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Valuable – or invaluable?

<table>
<thead>
<tr>
<th>Advocacy and Partnership</th>
<th>Leader or follower in initiatives</th>
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<tr>
<td>Business processes</td>
<td>External help</td>
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<tr>
<td>Collections</td>
<td>Born digital</td>
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<tr>
<td>Digital library</td>
<td>What is the strategy</td>
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<tr>
<td>Estates</td>
<td>Green agenda</td>
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<tr>
<td>Fundraising – with whom?</td>
<td>Only money? Part of the whole? Alumni?</td>
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<tr>
<td>Resource discovery</td>
<td>Trust metrics</td>
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<tr>
<td>Staffing</td>
<td>Fewer better paid?</td>
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<tr>
<td>Storage</td>
<td>Cooperation</td>
</tr>
<tr>
<td>User support</td>
<td>Anytime, Any place, Anywhere</td>
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The OCLC analysis

The Library was created as a set of activities to minimise transaction costs

Now that it’s all on the web, can we shift transaction costs?

Move on from that to see what categories of function are distinctive: CRM, product innovation and content aggregation

Vanilla stuff should be outsourced

Disappearing library roles

Traditional Library Activity | Web 2.0 World
---|---
Cataloguing | Automated metadata, del.icio.us
Classification | Folksonomies and the semantic web
Acquisitions | eBay, Paypal, Amazon and Abebooks
Reference | Yahoo Answers and Wikipedia
Preservation | Digital Archives and Repositories
User Instruction | Chatrooms
Working space | Bedroom and Starbucks with a laptop
Collections | Youtube, Flickr, Institutional Repositories, Open Access
Professional judgement | The wisdom of crowds

Alternative library roles

Traditional Library | Web 2.0 World | Library 2.0 World
---|---|---
Cataloguing | Automated metadata, del.icio.us | Metadata
Classification | Folksonomies and the semantic web | Locally provided and relevant folksonomy
Acquisitions | eBay, Paypal, Amazon and Abebooks | E-archives, e-data trust and quality assurance
Reference | Yahoo Answers and Wikipedia | Branded links to trusted resources
Preservation | Digital Archives and Repositories | Institutional repository
User Instruction | Chatrooms | Moderately chatroom
Working space | Bedroom and Starbucks with a laptop | Wired campus and 24-hour workspace
Collections | Youtube, Flickr, Institutional Repositories, Open Access | Aggregation of unique content with other libraries
Professional judgement | The wisdom of crowds | Teaching retrieval skills
Law’s second law

User
Friendly
Systems
Aren’t

Trusted repositories: the five Maori tests

The oral traditions are very important

Receive the information with accuracy
Store the information with integrity beyond doubt
Retrieve the information without amendment
Apply appropriate judgement in the use of the information
Pass the information on appropriately

The agenda for libraries

Building e-Research collections and contributing to a virtual research environment of born digital material
Importance of kite marking, quality assurance, trust metrics and relevance ranking
Managing institutional born digital assets and making content available
Value added content
Disciplinary support through training/information literacy
Policy and standards advice
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Expect the unexpected

Warning
Please look under your vehicles for penguins