Alone we fail
: an approach to universal print deliverability

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Conundrum

• Edge of a dilemma
  – Collecting ‘old stuff’
  – Google Book model
  – New Business Models

• Are we working in the past and irrelevant to the future?

• Our business model is quite different to what it was and is likely to change even further

• But which way or where???????
Five trends to the Future

• Ageing Population
• GRIN technology) Genetics, Robotics, Internet and Nano-technology)
• Global connectivity
• Powershift Eastward
• Environment

Richard Watson  Future Files 2008
• Not one future but many.......... 
• Futures can co-exist  
  – Google books, Europeana  
  – Printed book 
• No one solution especially in Profit and Not-for-profit worlds
Extinction timeline* 1950-2050

* Existence insignificant beyond this date
Growth in Library buildings

• Not exactly a rush to build new Library buildings
  – Utrecht and ‘cloud storages’
  – Sheffield Learning Commons

• The exception is in China
  – Normal University
  – Guangzhou
  – Shanghai Jiao-Tong
Growth in Repositories

• New constructions
  – Shared/ Collaborative
  – Shared/individual
  – Combined Library/internal repository
    • Extensions to CARM in Melbourne
    • Chicago
    • Macquarie
    • UTS
Robotics are all the rage!!!

• Robotics used in many if not all new Repository facilities
• Is this justified?
• Arguments centre around cost of staffing
• Usage of these resources rarely surfaces
• Usage typically around 2% per annum
• Different 2% each year
Rates of change

- Not just technological
- Social and conceptual
- Disruptive destroying (or destroyed) traditional library model
- Disruptive technologies will destroy any business model which does not watch its competition
- Collaboration is the future of work

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Digital Information Created, Captured, Replicated Worldwide

Exabytes:

- 1,800
- 1,600
- 1,400
- 1,200
- 1,000
- 800
- 600
- 400
- 200
- 0

Source: IDC, 2008

Tenfold Growth in Five Years!

- DVD, RFID
- Digital TV
- MP3 players
- Digital cameras
- Camera phones, VoIP
- Medical imaging, Laptops
- Datacenter applications, Games
- Satellite images, GPS, ATMs, Scanners
- Sensors, Digital radio, DLP theaters, Telematics
- Peer-to-peer, Email, Instant messaging, Videoconferencing
- CAD/CAM, Toys, Industrial machines, Security systems, Appliances
Diversity of the Digital Universe

Percentage of Category, 2007

Compound Growth, 2007–2011

- Information, 261EB
- "Files," 1.9 Quadrillion

Packets, RFID, Sensors, Messages
Computer Data
Images

In 2011, 94% of the digital universe will be contained in less than 1% of the "files," and conversely, 99% of the "files" will contain less than 6% of the digital universe.

Source: IDC, 2008
The Digital Universe’s Environmental Footprint

Devices Retired During Year

Million

Mobile phones
Digital cameras
PCs
Camcorders
PVRs and DVDs
Audio players

Costs of Power and Cooling

Billion

New Server Costs
Power Costs

Source: IDC, 2008
The Digital Footprint of an Email

Start 1.1MB

Email with Attachment

- Document 1.0MB
- Email 0.1MB

Sent to 4 colleagues

Transmit
Router and repeater buffers, packet headers and transmission overhead, network monitoring and management ~20MB

Original
- Document 1.0MB
- Email Text 0.1MB
- Local Email Copy 7.7MB
- Email Server 1.1MB
- Desktop Backup 1.0MB
- Redundant Server 2.1MB
- Tape Archive 4.2MB

Copies (4)
- Email Local Copies 4.4MB
- Server Copies 4.4MB
- Server Backup 4.4MB
- Tape Archive 5.8MB

Transient Overhead 29.0MB

Finish 51.5MB!

Source: IDC, 2008
Environmental impact

• Datacenter consumption of electricity
  – 2000  1% of all US Power consumption
  – 2010  4%
  – Cooling comprises 60 – 70% of all consumption
  – 2005  Over USD 7 billion annual
  – 39% of water consumed in the US is for power production
Risk Assessment

• Digital futures assumed are not always guaranteed
• Murdoch’s papers will most likely go PAID; most others will follow
• Significant declines in library expenditures expected in 2010 and then again in 2011
• No mention of consortia influence through research output
Is our future all digital?

• Google Book agreement
• Business models and futures .. Revenues out by library
  – Projections are revenue recovery in 2011
  – Expenditures for content ONLY
    • North America 11.8b
    • Asia/Pacific 6.0b
    • Europe 5.8b
  – Operating costs would be 55-60% in addition

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Academic Library expenditures

• Expenditures globally
  – 20% S and T
  – 6% Medical
  – 26% Aggregators

• Redundancy impacts?

• Global information... Published (Authenticated) information

• Language imperialism? New Internet capability
Is our future all digital?

• Google Book agreement
  – Continuing controversy and never really free
  – China 17,695 titles scanned without permission

• JSTOR old issues
  – How many paper copies required for preservation? Yano UCB

• Business models and futures .. Revenues out by library

• Economic and cultural value of artifact
Disruptive Technologies

• PC and the Main Frame computer
• The PDA/Mobile Phone and the paper Diary/PDA
• The *Traditional Library* and the *Digital Library*
• User Expectations; Generation X and Y and....
• The imperative to change is greater and greater!!!
On the shelf

Of the roughly **40m** titles in US libraries...

...about **8m** are out of copyright
and **32m** are still covered by copyright

Of these **32m**, about **7m-9m** are in print
and **23m-25m** are out of print

Of the **23m-25m** out-of-print titles still covered by copyright, about **2.5m-5m** are ‘orphan works’*

* Copyright holders cannot be traced

Sources: FT estimates based on figures drawn from Online Computer Library Center, Peter Hirtle/Cornell, Carnegie Mellon University Libraries, Google
Re-conceptualise !!

- Michael Buckland re-conceptualising storage access and delivery architectures
- “Central purpose of a library is to provide a service: access to information”
  - Does it mean that our existing library structures remain?
  - Does this mean that our roles are sacrosanct?
  - Does this mean that library revenues are impervious to change?

Reconceptualising......2

• Obviously to deliver benefit, political or economic, to parent organisation
• What is the purpose of the repository??
• .....Storage?  Preservation?  Capital substitution?  Continue ownership?  Bright/ Dim or Dark copies?
• Usually to serve own system of clients; this is purposeful but may be increasingly narrow
• Repositories are seen to be separate but they are not!!
Reconceptualising...... 3

- Risk Management... what is the endurance of the digital archive?
- What is the sustainability cost of powering the servers to host digital resources
- Relative costs of print versus digital storage
- No where can one go for low use materials through one port of call
- Stability of public funding to Libraries
- Take Library to the User, not the other way around!!!
• Barack Obama said ‘You can make change your friend!’
• You can choose to position yourself ahead of the pack
• We can choose rather than letting the future choose a path for you!!!
We can......

• There is a Business Model
• There is a need
• Repositories are not just for redundant materials
• Much of this material will never be digital
• Repositories are an active part of each library, but not for each library!!
What is the concept?

- Scenario Planning created URL: Universal Repository Library

Characteristics:
- digital delivery 24/7 to end-users;
- information for free (or support of minimal charges);
- performance and retention of public agreements;
- focus on existing strengths with multilingual approaches;
- virtual union catalogue linking repository catalogues;
- strong local support of regional repositories;
- international focal points; and the
- development of local support to bridge into URL
Plan for the future of our Repositories

- The ‘permanent’ repositories across the globe
- Different language and content strengths
- Different to ‘open’ collections; preserving value for the tax payer everywhere
- Form a very definite, very special network
- Archivally important; crucial Green credentials; Repositories are very low consumers of energy
- Value of the artifact
Why is the concept of any interest?

• Is everything in the world going to be digitised?
   NO!

• Is everything in the Google Libraries and as far as Google Books is concerned?
   YES….. but NO!

• Should we put all our eggs in the one basket?
   NO!
• Risk Management: what is digital archive endurance?
• What is the sustainability of power costs for the servers to host digital resources
• No where can one go for low use materials through one port of call
• Collecting for strategic purpose and permanence
What is the Business Model?

- Access to all low-use research materials which are available
- Access to these materials by whoever wants them
- Access to these materials in digital form on the desktop wherever possible (temporary)
- Access at ‘reasonable rates’ or costed into library services
- All aspects of the Business Model are International in scope
How is this Business Model relevant?

• Marketing directly to end-user across the net
• Re-conceptualising ‘the library system’ !!
• Assessing the relative strengths of the collections
• Partnering with those repositories/libraries which wish to see their resources used more
• This would be the Amazon of the low-use world!!!
Disruptive Librarians and Repositories/Libraries will make their future while making it a sustainable one!
Thank You

[xiè xiè dà jiā]

謝謝大家