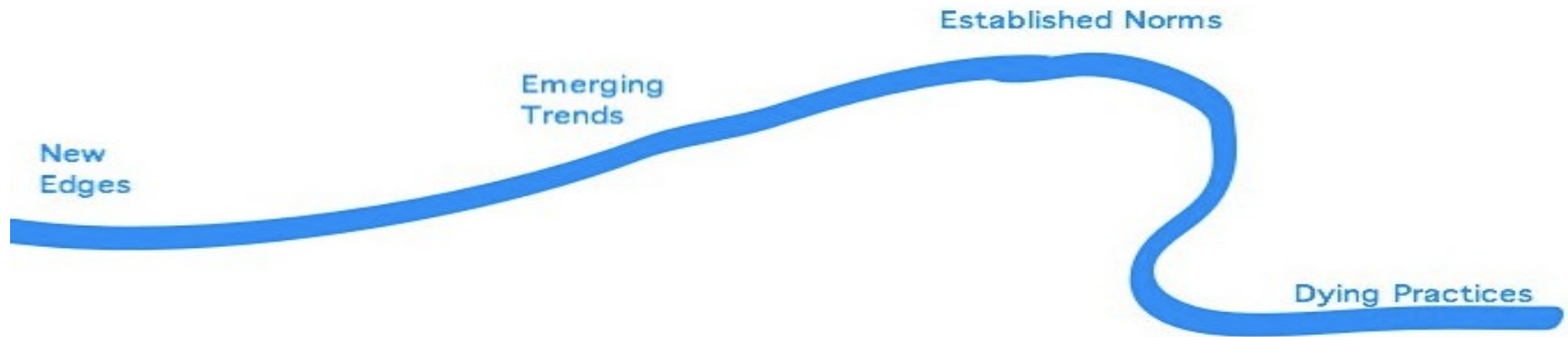# Looking to the edges: future perspectives

Professor Robin Middlehurst

Kingston University London & the Higher Education Academy

Outline

- **MOOCs - opportunities**
- **A bigger picture?**
  - **Key drivers & technologies**
- **Looking to the edges**
  - **Domains of disruption?**
  - **3 case studies**
- **Questions & issues arising**

MOOC opportunities

"The model makes freshman year relatively risk free and significantly less expensive than the typical first year of study on a college campus."
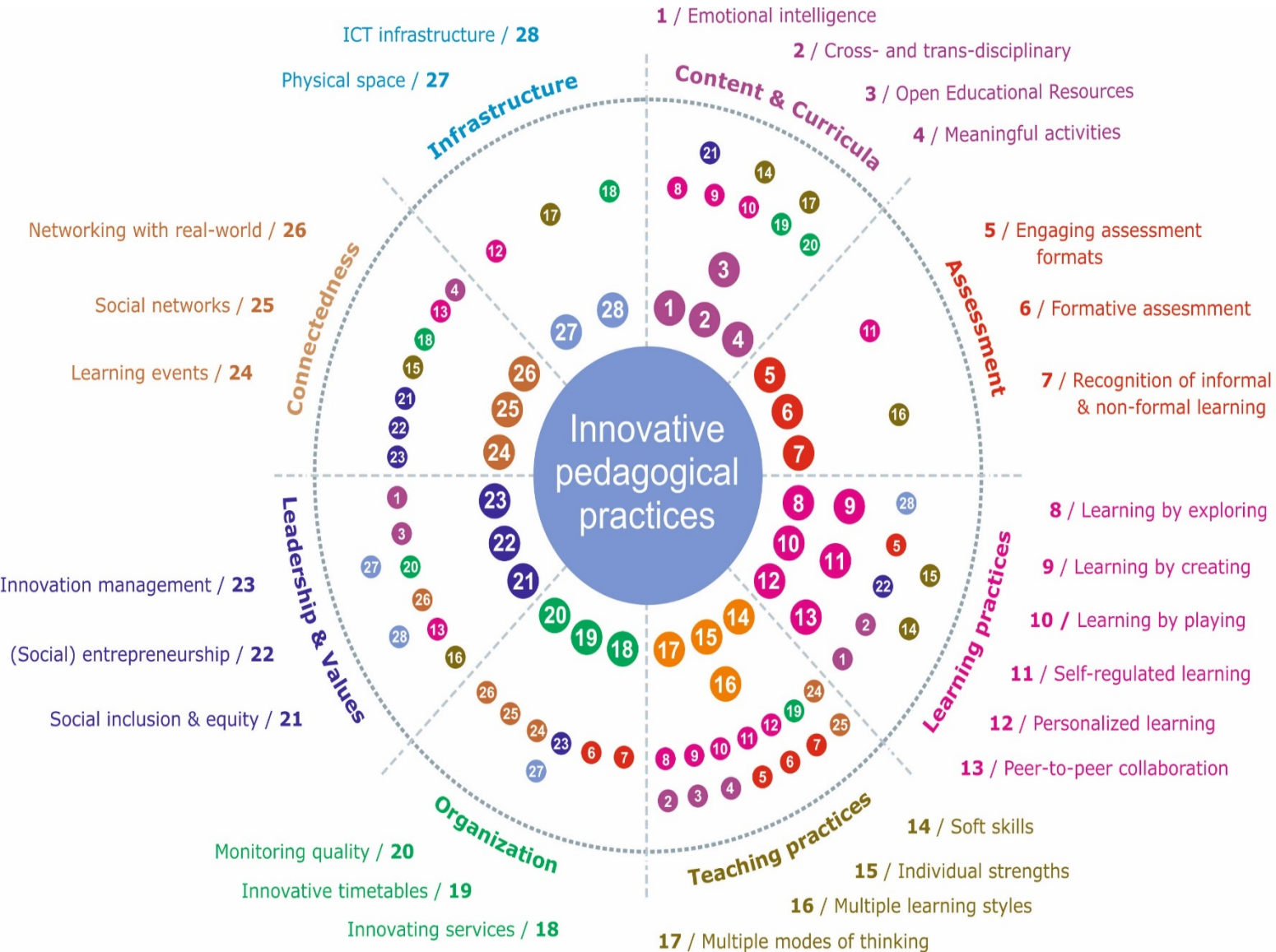
FORTUNE

Global **F**reshman **A**cademy
Start your freshman year online
#*CollegeMyWay*

edX | ASU ARIZONA STATE UNIVERSITY

MOOC opportunities…

Innovative pedagogical practices

Content & Curricula
1 / Emotional intelligence
2 / Cross- and trans-disciplinary
3 / Open Educational Resources
4 / Meaningful activities

Assessment
5 / Engaging assessment formats
6 / Formative assessment
7 / Recognition of informal & non-formal learning

Learning practices
8 / Learning by exploring
9 / Learning by creating
10 / Learning by playing
11 / Self-regulated learning
12 / Personalized learning
13 / Peer-to-peer collaboration
14 / Soft skills
15 / Individual strengths
16 / Multiple learning styles
17 / Multiple modes of thinking

Teaching practices

Organization
Monitoring quality / 20
Innovative timetables / 19
Innovating services / 18

Leadership & Values
Innovation management / 23
(Social) entrepreneurship / 22
Social inclusion & equity / 21

Connectedness
Networking with real-world / 26
Social networks / 25
Learning events / 24

Infrastructure
ICT infrastructure / 28
Physical space / 27

It's not just about MOOCs – key drivers

Figure 1: Three challenges for the next decade

ACCESS
- Enrollment caps
- Course availability
- "Non-traditional" new normal

QUALITY
- Low completion rates
- Unclear learning outcomes

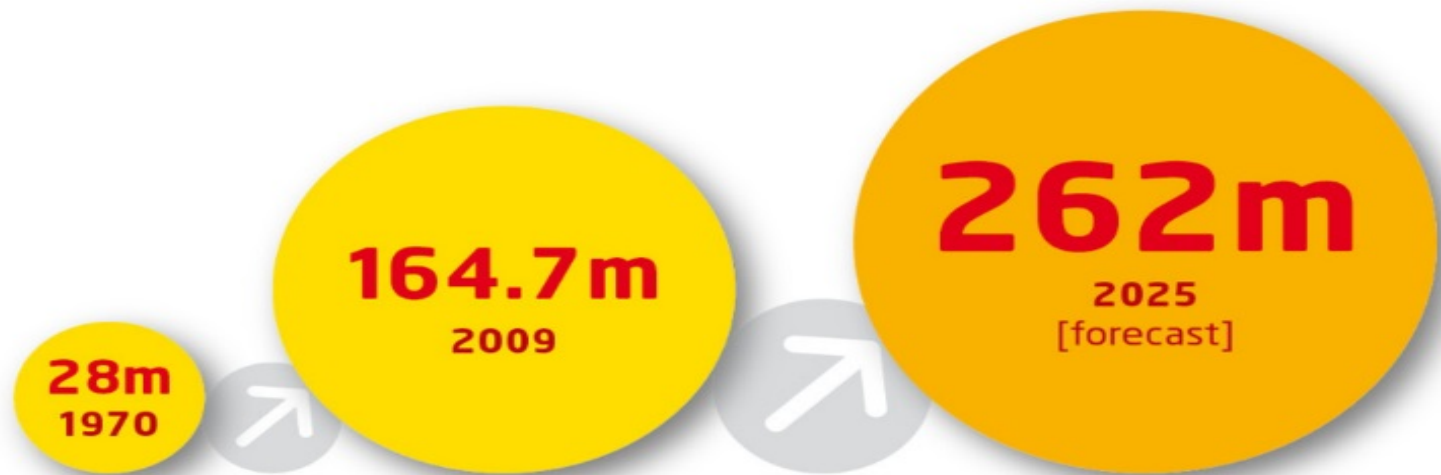**COST**
- Tuition increasing 3% over inflation
- State budget cuts
- Limited student ability to pay

© 2012 Bill & Melinda Gates Foundation

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Demand for HE

TOTAL NUMBER OF **STUDENTS IN HIGHER EDUCATION** – LARGER THAN THE POPULATION OF RUSSIA OR NIGERIA

28m 1970

164.7m 2009

262m 2025 [forecast]

SOURCE: OECD, EDUCATION AT A GLANCE 2011

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Estimated value of global education provision

- 2nd largest sector after healthcare
- Enrolments in tertiary education:
  - 1970 = 33m   2010 = 178m
- Estimates of 18-24 population:
  - 2015 =830m   2020 = 827m
- Market size:
  - 2005 = $2.5tr
- Global education expenditure
  - 2012 = $4.5tr

(BIS, July 2013)

Heterogeneous Students & their choices

Student Type	Looking to Achieve ...	Likely Provider
Full-Time Undergraduate	Honours degree	Four-year college
Undergraduate requiring remedial help	Experience of attending a university	Community college
Part-time worker	College credit	For-profit institution
Job seeker	Informal certification	Online university
High school student	New knowledge	MOOC
Overseas student		
Casual learner		

Source: Outsell analysis

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Unbundling

Content delivery

Online, students have access to more engaging and entertaining content and instructors with more authority and expertise.

Models of thinking and doing

Instructors can rely on demonstrations of thinking and doing put online by experts in their fields, freeing them to focus on the direct relationship with the student.

Content sequencing and pathways

Students will have easy access to more constructivist cirriculum packages and have courses of study with a tighter alignment to the job market.

A transformative experience

Students starting college are seeking a space to grow as people. The internal transformation may be hard to achieve online, but may be possible through alternative in-person programs.

An affiliate network

The internet has created decentralized networks that are tightly integrated with a student's career path, making it easy to assemble a personal learning network that provides inspiration and peer feedback.

A supervised coming of age

What helps students come of age? Events and curriculum that build character, provide opportunities for leadership, and force students to interact with different cultures and ideas.

A signal to the job market

Traditionally, a degree is a signifier of motivation, socialization, and learning capability. The internet is introducing alternative signifiers for skills and proficiency.

Feedback leading to mastery

While feedback on simple math or code problems is relatively easy to do at scale, feedback on speech, presentation, writing, and communication are markedly difficult to automate or scale.

Mentorship

Potential mentors generally lack the drive or time to find and filter new young people to mentor. Within the shared environment of academia, the "pay it forward" value of mentorship is more immediately apparent.

A credential of estimated competency

Given the variation in content and quality across the education system, a diploma does not always correlate tightly to skill sets in demand.

Global HE Market Forecast (IT)

- Unbundling of the HE marketplace
  - HEIs outsourcing
  - 3rd party service providers help HEIs build & manage online services = $bn market
- HE market consists of:
  - Software solutions, content & collaboration, data security & compliance, campus technology, student & curriculum, performance management
- Growth predicted:
  - From $43.06bn in 2013 - $65.83bn in 2019

Technology drivers - Convergence & Integration

The digital age…
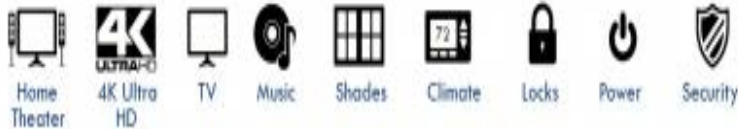
NMC Horizon Reports

2013

- 1 year or less
  - MOOCs
  - Tablet Computing
- 2-3 years
  - Games & Gamification
  - Learning Analytics
- 4-5 years
  - 3D printing
  - Wearable technology

2014

1-2 years
  - Ubiquity of social media
  - Integration of online, hybrid, collaborative
- 3-5 years
  - Rise of data-driven learning & assessment
  - Students: from consumers to creators
- 5+ years
  - Agile approaches to change
  - Evolution of online learning

NMC Horizon Report – HE 2015

CHALLENGES

SOLVABLE
> Blending Formal and Informal Learning
> Improving Digital Literacy

DIFFICULT
> Personalized Learning
> Teaching Complex Thinking

WICKED
> Competing Models of Education
> Rewards for Teaching

TRENDS, CHALLENGES, AND TECHNOLOGIES FOR HIGHER ED

TRENDS

SHORT-TERM
> Increasing Use of Blended Learning
> Redesigning Learning Spaces

1-2 years in each direction

MID-TERM
> Growing Focus on Measuring Learning
> Proliferation of Open Educational Resources

3-4 years in each direction

LONG-TERM
> Advancing Cultures of Change and Innovation
> Increasing Cross-Institution Collaboration

5+ years in each direction

2016   2017   2018   2019   2020

TECHNOLOGIES

NEAR-TERM
1 year or less
> Bring Your Own Device
> Flipped Classroom

MID-TERM
2-3 years
> Makerspaces
> Wearable Technology

FAR-TERM
4-5 years
> Adaptive Learning Technologies
> The Internet of Things

Looking to the edges – new providers & services

3 'domains of disruption'? – 3 cases

- Assessment & credentialing – Open Badges

- Libraries & knowledge resources – Digitization

- Personalized student pathways – IBM's 'Exceptional Student Experience'
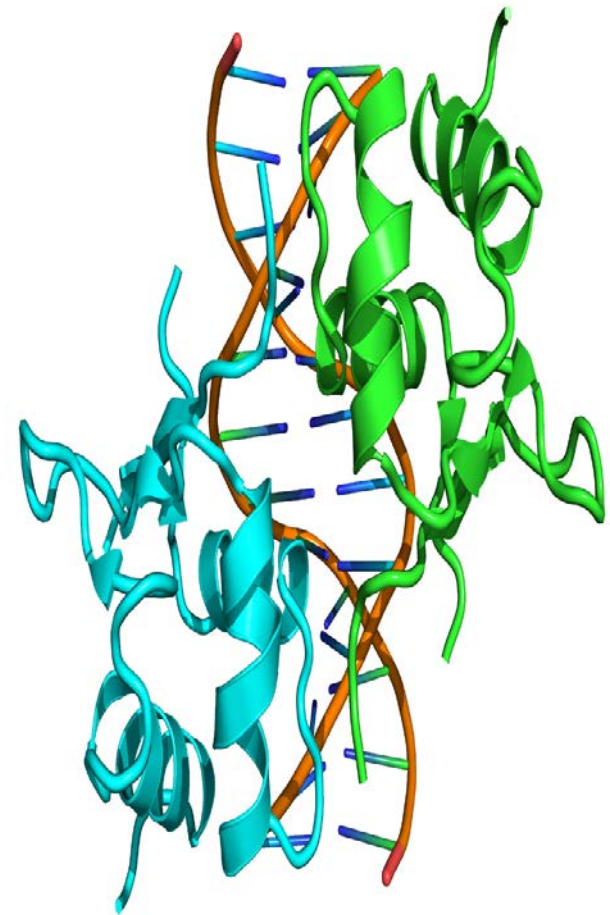
Open badges

" *Digital* badges can contain specific claims & detailed evidence supporting those claims. *Open* digital badges allow this information to circulate in digital social networks. Many are discovering that this makes open digital badges potentially transformative & routinely disruptive…"

(Daniel Hickey, 30.8.14, IU Centre for Research on Learning & Technology)

Badge image
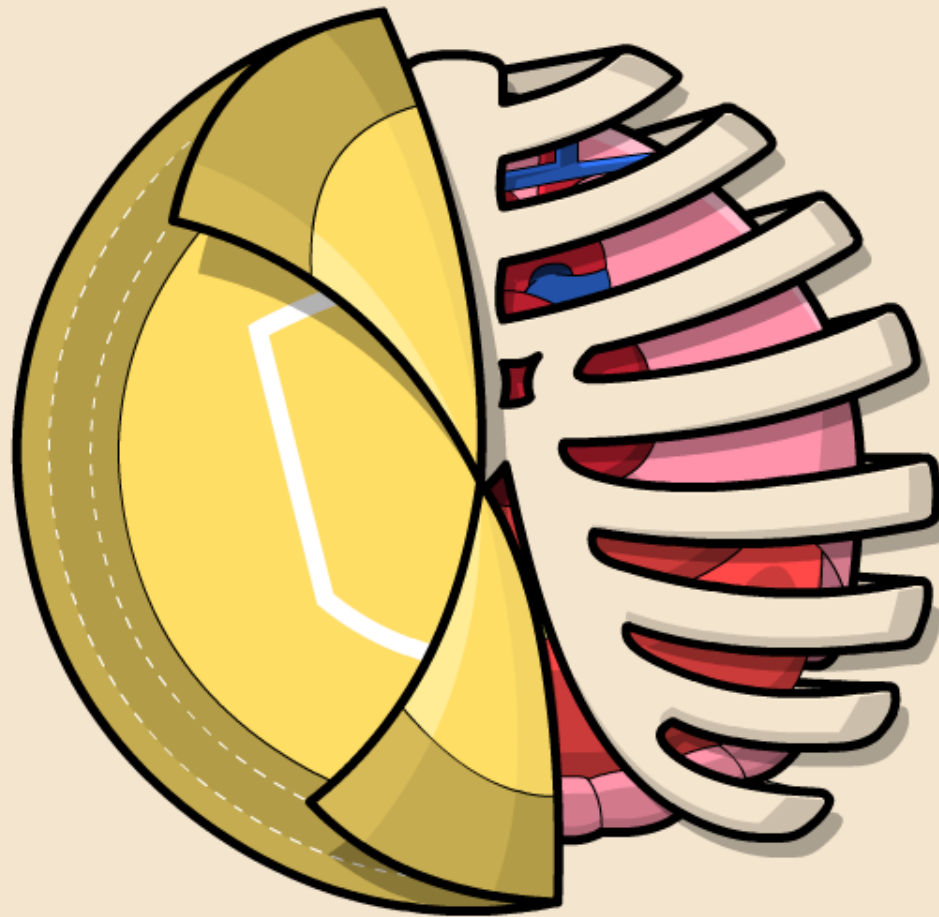
Badge name

Description

Criteria
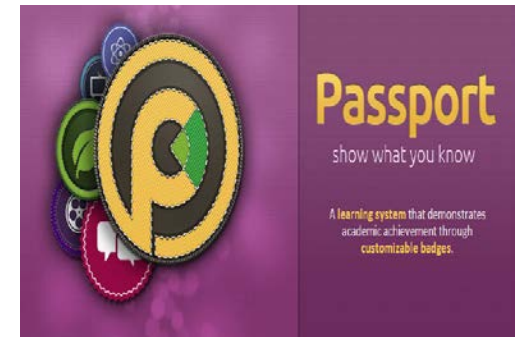
Issuer

Evidence

Date issued

Standards

Tags

OPEN BADGES
ANATOMY

Open Badges

- Mozilla's digital accreditation infrastructure
- Support for CBE at policy level (US DoE; Lumina Foundation, Bill & Melinda Gates Fdtn)
- Next generation learning management systems (Educause White Paper 2015)
  - Personalized & collaborative environment
  - Flexible, intuitive, driven by data to help learners
- Parallel developments – VALUE initiative (AACU) - eportfolios
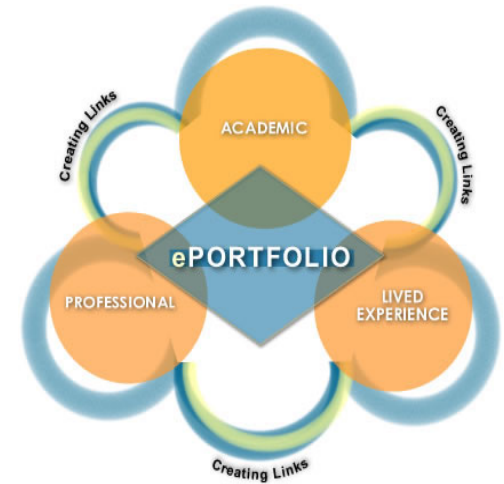
HE Examples

- **Indiana University** – 'Open Badges & beyond in OpenedX & beyond'
- **Deakin University** – DeakinConnect integrates open credit into MOOC
- **Purdue University** – Passport learning & eportfolio system for learner-centred engagement & skill-building
- **University of Michigan** – Recognizing co-curricular learning using digital badges in Engineering & STEM Academies
- **Open University –** introducing BOCs

Passport
show what you know

A learning system that demonstrates academic achievement through customizable badges.

Issues arising

- Sharpening & broadening learning outcomes
- Replacement or integral to degrees?
- Shifting accreditation – from HEI to instructor, from learner to community of practice?
- Utility for employers?
- Uses of data?

Libraries and knowledge resources

"The convergence of IT, telecommunications & media is changing the way information is collected, stored and accessed. This revolution is having effects on the development & organisation of information & artefact repositories such as libraries and museums…"

(Earnshaw, R. & Vince, J. (2007). Digital Convergence – Libraries of the Future)

Digitizing…

- Google Books - largest online body of human knowledge?

- Google Books Partner Program, Google Library Project (books out of copyright to increase access)

- **HE Partners – Harvard, Oxford, Stanford…**

- Oxford & Michigan: *Early English Books Online* – 25,000 texts into public domain; March 2015 Hackfest & Ideas Hack – students, researchers (all disciplines) + public create projects

University Libraries and Space in the Digital World

Edited by Graham Matthews and Graham Walton
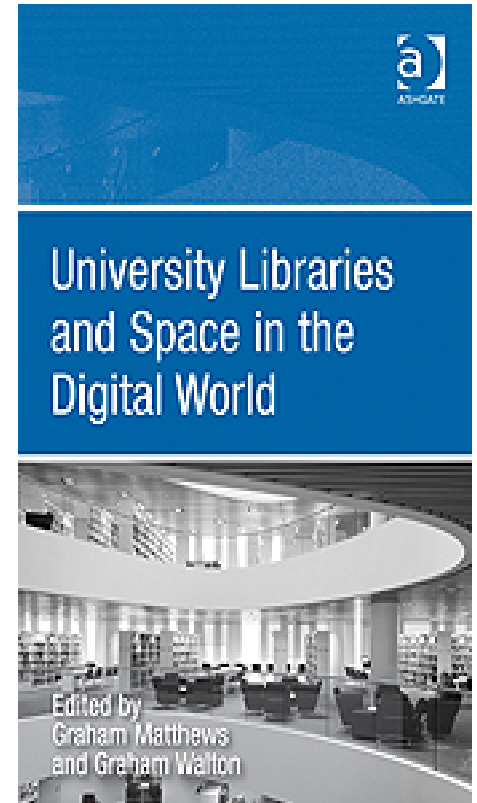
Issues arising

- Copyright status (Google Books - settlement of class action still pending, 2014)

- Lack of editing to correct errors in texts & metadata (for cataloguing)

- Open access v for-profit access

- Privacy – 'passing personal data to the mothership' (Adobe Digital Editions Software)
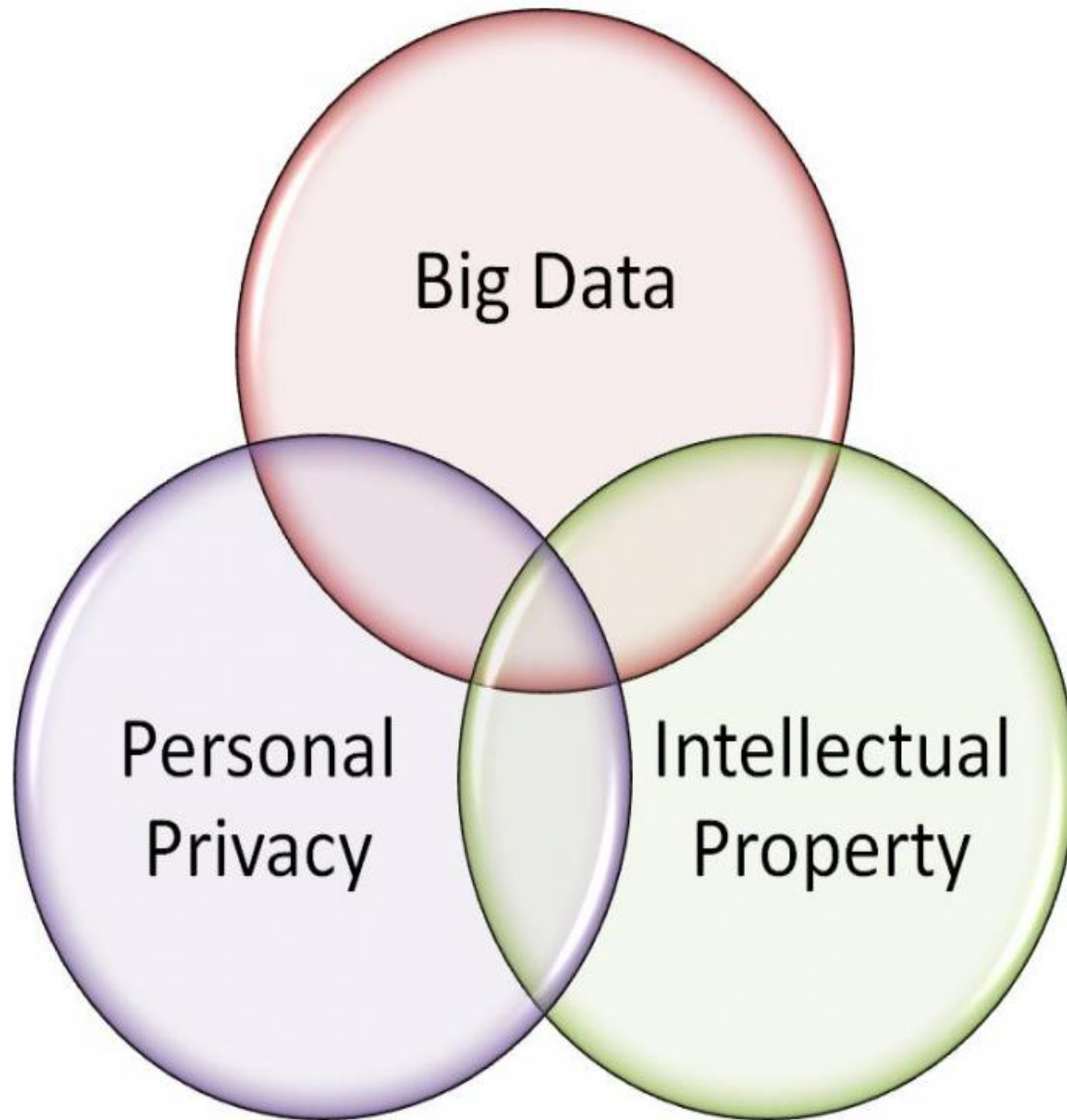
Future Scenarios for Research Libraries?

(ARL 2030 Scenarios)

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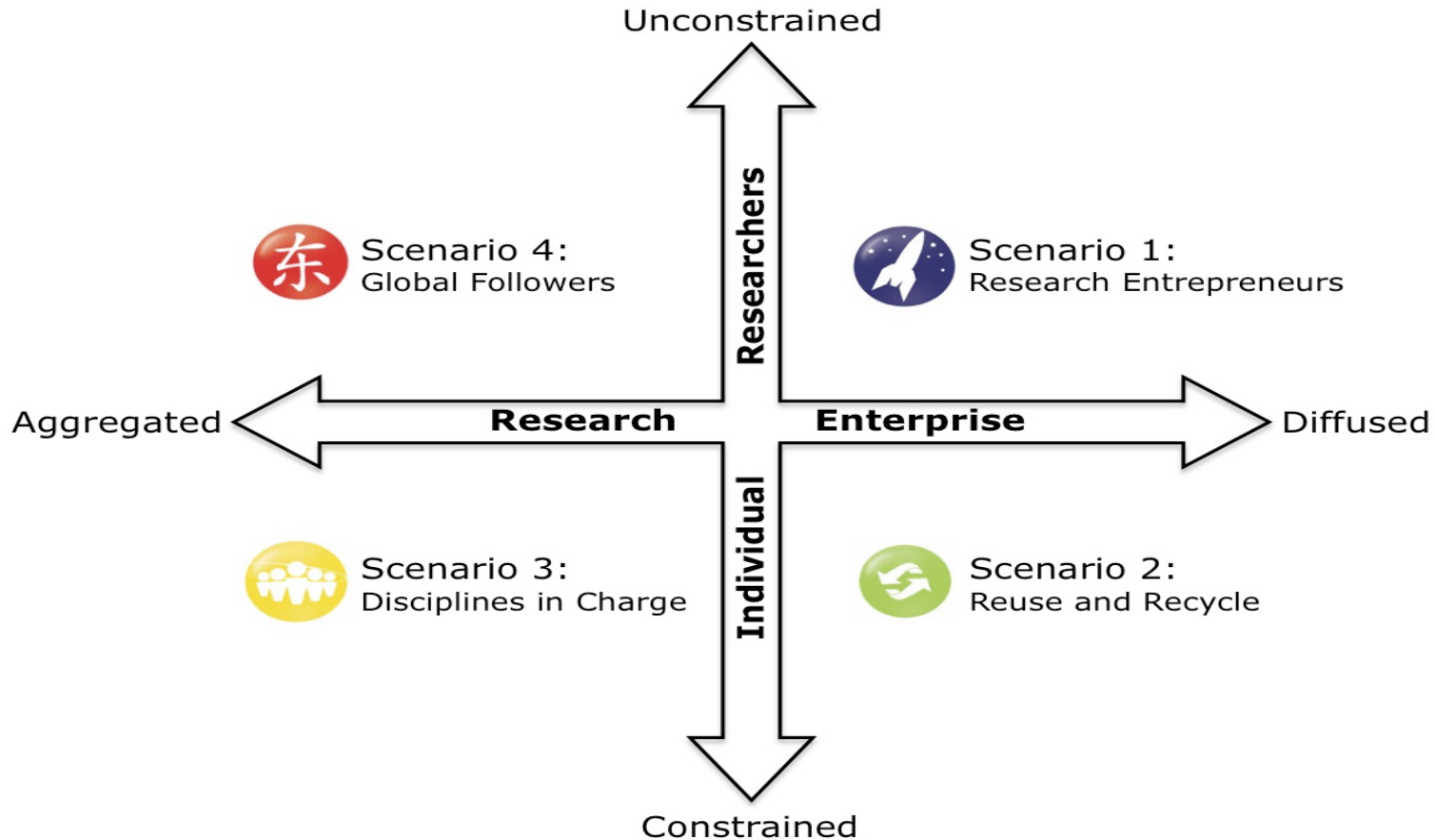
Personalized student pathways

"Institutions need to proactively manage the machinery of profiling, attracting & retaining students….

Students expect greater VFM from their investment & demand up-to-date collaboration, greater diversity of provision, more variety in modes of learning…"

IBM – 'creating a holistic view of every student'

- A pillar of the IBM Smarter Education Framework

- Recruitment with Digital Marketing
- Access via Personalised Portal
- Pedagogy with Social Collaboration
- Retention with Predictive Analytics

exceptional
student
experience
powered by portal.

HELPING EDUCATION BECOME TRULY STUDENT-CENTRIC

HE examples

- **University of London** – integrating access to key services, virtual learning environment & email

- **University of Arizona** – integrating data giving deans, administrators & professors 90% faster access to data

- **University of Telecommunications Leipzig** – using analytics to respond quickly to industry needs (launching course in 2.5 c/f 12 months & increasing demand to 300% + students more employable)

- **LSBU** – integrating predictive analytics, social collaboration & personalised digital portal – improve teaching, assessment, feedback & student preparation for work

integrate 2015

Kingston University London

Issues arising

- Privacy
- Ethics
- Hype v reality?
- Passive or active learners?
- Impact on faculty
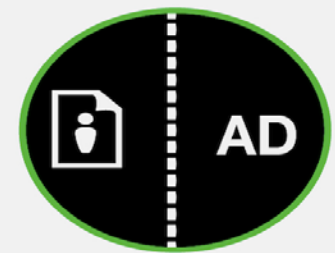

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Alternative futures?