

Open Research Data The Role of Libraries

Philip E. Bourne, PhD, FACMI
Director, Data Science Institute
Professor of Biomedical Engineering
University of Virginia

peb6a@virginia.edu
www.slideshare.net/pebourne

I am here to have a dialog, not to be a
talking head

My Bias

- University professor - 30+ years – chair of senate library committee
- Associate Vice Chancellor for Innovation – 2 years
- Maintainer of public data resources (PDB etc. – 15 years)
- Open science advocate – 10+ years – worked with the library
- Fed – 3 years
- Director – Data Science Institute – 5 months

Overall very much a faculty perspective

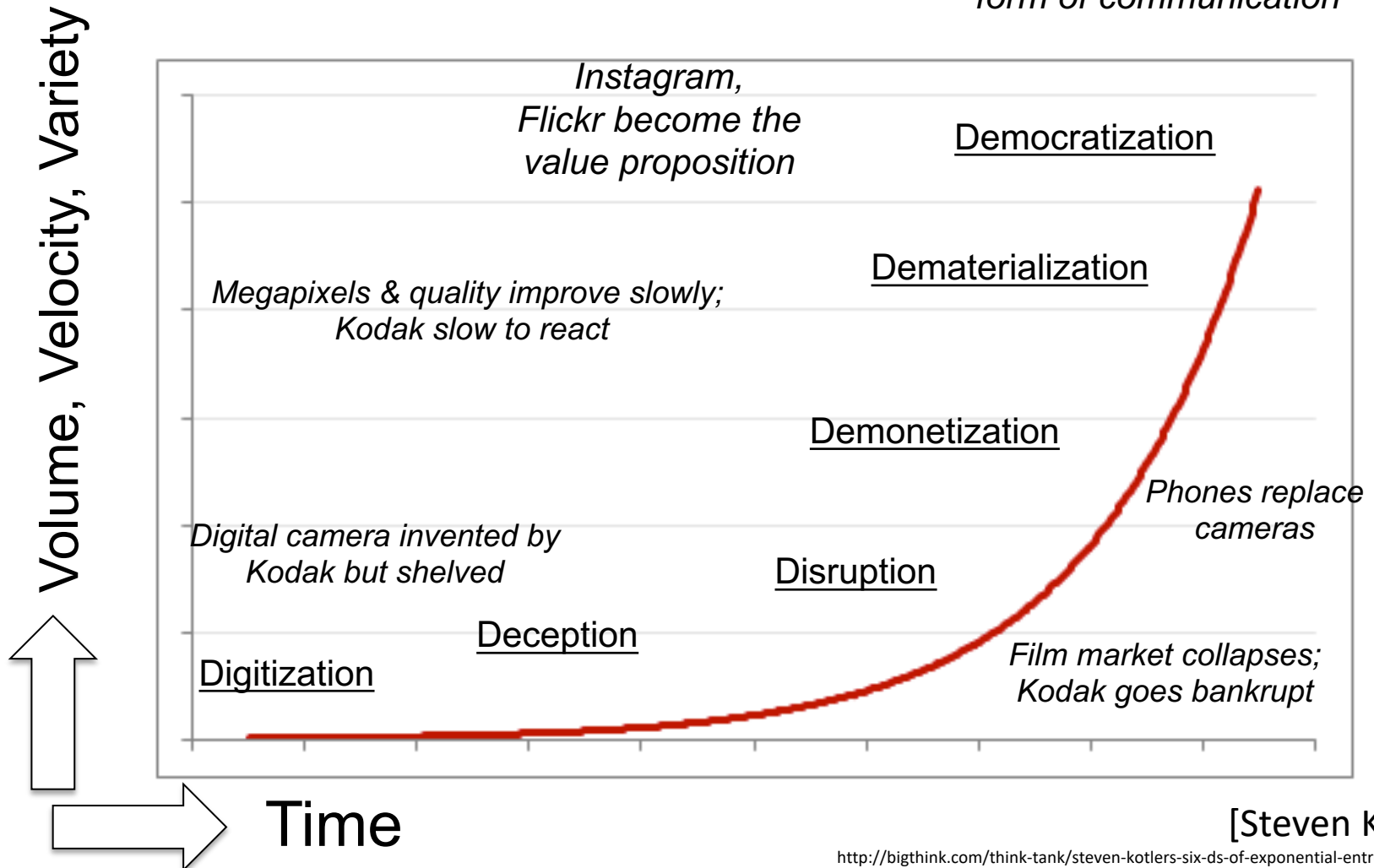
The Status of Open Research Data

It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of Light, it was the season of Darkness, it was the spring of hope, it was the winter of despair...

Charles Dickens

The Worst of Times

Digital media becomes bona fide form of communication



[Steven Kotler]

Enterprises {including libraries} that
are not born digital are at a
disadvantage in this new economy...

Fortunately no university has yet to be
born digital ...

The “Google university” could change
that

The Writing is on the Wall (Institutional)

- Changing access models
- Changing funding models
 - Less federal and state funds
 - More sponsored research
 - Increased tuition
 - More reliance on philanthropy
- Changing pedagogy
 - MOOCs, SPOCs, DOCCs, flips
- Changing student expectations
 - Expect to be taught in a different way
- Changing faculty expectations
 - Expect more from the institution
- Changing staff expectations
 - Better recognition
- Changing employer expectations



<http://collegeparents.org/2011/01/26/when-your-college-student-unhappy/>

Yet demand for a quality higher education has never been higher

Leads to the Notion of the University as an Open Data Digital Enterprise

- The university is defined by its digital assets:
 - On-line course materials
 - All of the research life cycle on-line: grants, data, computational methods, results, conclusions, publications
 - Faculty, staff and student profiles on-line
 - All administrative data on-line e.g. grants, policies and procedures, disclosures, contracts, patents, agreements, payroll, academic files

We are promoting Open UVA (see MNI)

Will libraries lead the transformation?

Personally, I think not ...

- No longer seen (by faculty, students and administration) as the center of knowledge – its much more distributed
- Providing valuable services around data – education, repositories, standards, but not typically agents of change

I say this with respect

How can libraries lead the transformation?

The Most Successful Universities of the Future Will be Those That Can Best Leverage Their Digital Assets which includes open data –

How can libraries lead that charge?

Generically

How? – Help Break Down the Silos

Research

Education

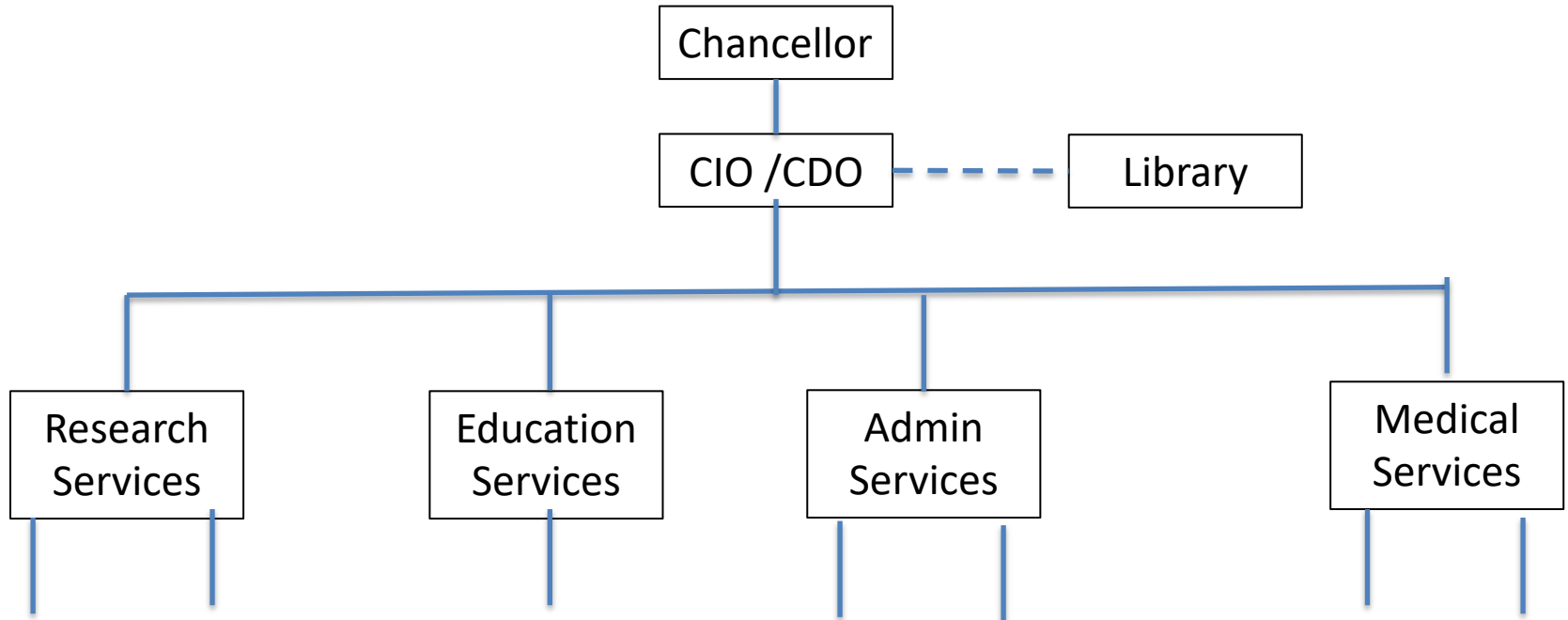
Administration

Basic

Clinical



How? – Facilitate an Appropriate Organizational Structure



Culture Change



"I'm right there in the room, and no one even acknowledges me."

How to Change the Culture?

- *Solicit faculty advocates to help drive change*
- Intramural and extramural training programs
- Fostering open science
 - e.g. policies, challenges
- Fostering changes to the research life cycle
 - e.g. preprints, data citation, open final reports
- Strategic planning with buy-in from major stakeholders
- Use cases as exemplars *eg Open Data Lab*

Support Use Cases from the University as a Digital Enterprise

Research Data

- Prof x drags and drops her research data to the institutional dropbox. She is asked for a small amount of metadata describing the dataset. Part of that request gives permission for the data to be indexed and the index analyzed by the University. That analysis reveals that two other researchers have worked on the same gene in the past two months and they are all alerted as to their common interest and begin collaborating.

.

Faculty Productivity

- From a single profile a faculty member can, at the push of a button, generate a world-facing current web presence, provide biosketches to the major funding agencies and submit their academic file for review saving countless hours of reformatting which now goes into productive research.

The Research-Administration Interface

- Researcher x receives a new grant, researchers y and z are notified since it is very close to areas in which they work and points of collaboration may be possible.
- Researcher x needs to have an assay performed and can immediately locate who on campus and off-campus can perform the work and at what cost.
- Experts on and off campus can immediately be identified for the review of a potential patent filing based on a researcher's technology.

Summary

Universities will change; it could be an opportunity for libraries to regain a more central role through open data