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Policy, Tools, or Culture?

Exploring Pathways to Open Processes

Carrie Ashendel, 2010

The Burning Question

In which contexts and with what methods can policies, tools, or cultural pressures be employed to expose processes and incremental findings behind publicly supported activities?

Outline

- Why would we want to expose process?
  - Theoretical responses to the "why nots"
  - Concrete examples of the "whys"
- Which processes might we expose?
- Case studies of efforts to expose processes
  - Cost & benefits to the public at large as well as individual stakeholders
  - Tools for coordinating transparency and hosting incremental findings
  - Relevant policies and guidelines and acceptance or resentment thereof
  - Social norms and cultural practices related to openness and collaboration
  - Compatibility of funding and accreditation systems
  - External pressures for exposing process and findings
  - Identifying possible authority or sway in pushing towards openness
- By way of aggregation…
  - Is open always right?
  - Are there policies, tools, or cultural pressures that can be employed across industries?
  - Are there concrete contextual requirements or is there flexibility?
  - Can I create a cross-industry template, check-list, or process for progressing towards open notebook type practices?

Do we really want to see the sausage factory?

Disclaimer:

I’m a planner

What do planners do?

Watching The Demolition From Inside the Metropolitan Hotel by Sister72

Demolish communities

BY-NC-SA by UrbanReviewSTL
http://www.flickr.com/photos/urbanreviewstl/1709543475/

Promise grand things to come

Macy's Parking Lot by iirraa

And then support huge commercial developments that don't get used and get slated for demolition a decade later

And then the public gets angry.

Why do we get to do this?

To resolve the problem of the anti-commons.

Open opportunities to direct and contribute to the use of resources for the public good

Participatory Planning

Opening public knowledge resources for greater contribution by exposing processes and early findings

- **What** are the public resources that we can open up for greater contribution?
- **How** can these resources be made open to external contribution?
- **Who** is effected by making these resources available?
- **Why** would we want them to be publicly accessible?

Pros and Cons

Making Sausage by So Misguided/Monique

Cons

- Discordance with image/reputation concerns (especially as related to funding and peer confidence)
  - Distortion of efforts to near-term
  - Perfectionistic paralysis could slow down innovation
  - Under-appreciation for process contributions could result in inefficient distribution of authority
- Fear of getting scooped and losing competitive advantage for funding could create costs related to attempting to maintain secrecy
- Fear of defacement could create costs related to attempting secrecy
- Pre-publication could preclude publication or patenting resulting in lost benefit from those systems (or costs of maintaining secrecy and/or juggling publication schedules and copyrights)
- Difficulties determining validity of non-peer reviewed knowledge products could require funding for new verification/filtration systems or else result in inefficiencies of information overload
- Storage and bandwidth costs

Anti-Cons

- Problem: near-term focus or perfectionistic paralysis
  - Response: True short-term inefficiencies during period of cultural adjustments, which can be mitigated by continued emphasis on overall impact and final production
- Problem: under-valuation of in-process contributions distorting distribution of authority
  - Response: In many industries, highly visible contributions of this type are appreciated, even if not quantifiably so
  - Response: And if they're not, people are highly unlikely to invest time in them at the expense of promotions, barring catastrophes like uncredited/unfunded mandates
  - Response: Eventually, new crediting tools that balance the true value of end-product and in-process contributions will be created.
- Problem: Secrecy efforts due to fear of getting scooped and losing competitive advantage
  - Response: Social norms of respecting a creator's association with ideas or partial work; connect future funding and credit opportunities to reputation based on open process (e.g., National Human Genome Research Institute Rapid Data Release Policy)
  - Response: More incremental funding opportunities will be created
- Problem: Secrecy efforts due to fear of defacement
  - Response: Fears of defacement can be effectively outweighed by abundant reaffirmation of quality; cultural shift
  - Response: If you're that scared that one thing will be taken out of context, then you probably don't have that much to counter with, i.e., the lose from to society from secrecy is minimal

Anti-Cons (Con't)

- Problem: Inefficiencies to reduce the risk of precluding publication or patenting
  - Response: True short-term inefficiencies of negotiating contracts and reconfiguring paragraphs, but most likely people won't bother to open process if this isn't justified
  - Response: Policies of support or mandates or a critical mass of practice
- Problem: determining validity of in-process findings and data
  - Response: Peer-review publication and renewed grant funding retroactively validate the open-notebook, on whole
  - Response: One only need look at the open notebook if relatively intimately involved with it, in which case they can use their own faculties to assess validity
  - Response: The creation of filters don't present a huge potential misuse of funds (i.e., trust in capitalism)
- Problem: Storage and bandwidth costs
  - Response: Minimal (arXiv.org: >$7/submission, $0.014/download)
  - Response: Only build what there is demand for (i.e., trust in capitalism)

Key things to remember from the anti-cons

- Mitigate near-term focus and perfectionistic paralysis by careful effort to maintain proper emphasis on end-products and impact (i.e., don't just enact policies saying open process is important for funding or credit without saying how important, unless it is a blanket recommendation to adopt an all or nothing practice such as early data release)
- Carefully measure demand for infrastructure to support open notebook practices before investing in it
- Don't mandate open practices when/if the true inefficiencies are prohibitively high in a given industry
- Preclusion of publication would have multiple downsides and it is circumvented via collective actions, so it is a good focus for deliberate policy or behavioral campaigns

Pros

- Discovery of otherwise hidden or difficult to access problems and solutions
  - "Sunlight is the best disinfectant"
  - "Stand on the shoulders of giants" ('See through the eyes of giants?')
  - Situate theory and ideas in practice; economic development
  - More timely and potentially more detailed feedback and advice
- Lack of temporary monopolies promotes rapid innovation and there are exponential speed gains
- Cultural reinforcement of sincere public interests (belief following behavior – chicken & egg)

Select target projects that can benefit accordingly

Processes being opened

- Urban redevelopment
- Personal development
  - Education (online portfolios)
- Reform efforts
  - Government
  - Nonprofits
  - Corporations
- Impact Assessment
- Editing/reviewing
  - creative works
  - research papers
  - grants
- Data collection and analysis
  - academic (genetics, physics)
  - journalism
- Competition submissions
- Open Source Drug Discovery

Social Computing Tools

* Processes: Wikis, Shared Documents, Mind Mapping, Collaboratorium/Deliberatorium (http://mixedink.com/main.php)
* Repositories: Social bookmarking, Shared Feeds (Diigo v4.0 beta)
* Reputation: Blogs/microblogs

Where's the excitement!?

Example Policies, Tools, and Cultures

- Public, private, and crowdfunding requirements for exposing results
  - NIH Public Access Policy
  - National Human Genome Research Institute Rapid Data Relsease Policy
  - Google Summer of Code
  - Eureka Foundation
- Funding, documenting, and crediting each step in the process (Mechanical Turk)
  - Kickstarter, Spot.us
  - Community Resource Projects
  - Project Description Publication
  - Policies for new crediting schemes (kfitz)
  - (Fact: citation index correlated with open data)
- Competitions/rewards (progress publication, leader boards, and collaboration rooms)
  - Netflix
  - InnoCentive
  - Open Notebook Science Challenge
- Journal publication requirements for exposing data:
  - Dryad
- Recommended practice from professional societies or Mandates from Universities
  - Genomics
  - MIT Open Access Mandate
- Watchdog groups and third party tools for measuring transparency:
  - Glass Pockets, Intelligent Giving
  - Sunlight Foundation, Citizens Union
- Third party actively exposing another's process
  - OpenSecrets, MapLight
- Tools for publishing/crediting data and process
  - WikiLeaks
  - caBIG
  - GenBank
  - arXiv.org, SSRN
  -
  -

Case Study Questions

- Are the theoretical benefits (pros) actualizable?
- Does it conquer the cons?
- Are there tools to coordinate transparency, host findings, facilitate collaboration?
- Are there relevant mandates/recommendations for transparency? (Is there resentment of existing mandates for transparency?)
- Are there industry social norms for transparency?
- Is there external pressure for transparency?
- Is there an appropriate accreditation or funding system?
- Who has authority or sway to enact change?

Case Study: Open Science

Are the benefits valuable?

* Sunlight as a disinfectant: weak
* Stand on the shoulder of giants: strong
* Feedback on process: strong
* Situate theory in practice: strong
* Rapid innovation from reduced monopolies: very strong
* Cultural reinforcement of public interest: weak

Case Study: Open Science

Does it conquer the cons?

- Problem:Near-term focus or perfectionistic paralysis
  - Response: Not a problem
- Under-appreciation of efforts on open notebooks
  - Response: Project Plan publications, Data publications
  - Response: Social norm – all or nothing
- Fear of getting scooped or losing standing
  - Response: NHGRI decision to let it be, with understanding of respect
  - Response: Incremental funding and publication
- Fear of defacement
  - Response: Not a problem
- Pre-publication concerns
  - Response: arXiv.org provides critical mass in practice
  - Response: Professional societies encourage it
  - Response: Journals even require co-publication of data
- Determination of validity
  - Response: retroactive validity via publication
  - Response: DIY validation
- Storage and bandwidth:
  - Respones: arXiv.org voluntary

Case Study: Open Science

Are there tools to support collaboration and host findings?

* ProteomeCommons.org
* GenBank
* caBIG
* arXiv.org
* and many other data sharing and pre-printing services that also facilitating discussion and collaborative annotation.

Case Study: Open Science

Are there relevant mandates or recommendations for transparency?

* National Human Genome Research Institute Rapid Data Release Policy
  - DNA sequences within 24 hours
  - DNA traces within 7 days
  - Whole genome sequences within 7 days
  - Whole gnome assemblies as soon as possible (meeting quality assurance standards)

Case Study: Open Science

Is there external pressure for transparency?

* Tax dollars used, so, yes, but mostly just focused on Open Access, not Open Process.
* But there is pressure to not patent naturally occurring DNA sequences (Myriad Gene Patent Case)

Case Study: Open Science

Are there appropriate crediting and funding schemes?

* This is lagging.
* Creation of "data papers"
* Idea of "Project Plan" publications (hasn't caught on)
* There are new funding mechanisms: Eureka and Common Resource Projects

Incremental funding

International Human Genome Sequencing Consortium

Mouse Genome Sequencing Consortium

Mammalian Gene Collection

SNPs Consortium

International HapMap Project

Case Study: Open Science

Who has the authority or sway to push for open process?

* Professional societies/funders (and possibly crowdsourced funders)
* Journal publishers by requiring data publication and by creating new publication types
* Scientists by creating tools
* Scientists by hosting competitions, thereby promoting the public benefit of open science
* Third parties by creating new credit systems or adjusting the Citation Index

Contextual Comparisons

	BioSciences	Chemistry	Philanthropy 2.0
Actualizable Pros	strong	weak	strong
Mitigated Cons	strong	weak	weak
Tools	strong	weak	weak
Mandates/Recs	strong	weak	neutral
Social Norms	strong	weak	weak
External Pressure	neutral	neutral	strong
Credit Scheme	weak	weak	weak

In search of: timelines/natural order, imperatives, best bets.

For further discussion

* Is open always right?
* Are there policies, tools, or cultural pressures that can be employed across industries?
* Are there concrete contextual requirements or is there flexibility?
* Can I create a cross-industry template, check-list, or process for creating open notebook type practices?