

Open source&Open data

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NAB

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Quotes

Finally,[], computer professionals tend to disregard the truth. They tend to live in a fantasy world where there is no distinction between reality and fiction, between what computers are supposed to do and what they actually do, and between realistic expectations and dreams.

-John Ladd, 1997

*"Technology is not a destiny,
but a scene of struggle"*

-Andrew Feenberg, 1991

Abstract

- » *Both open source software and open data stacks are artifacts that attract developers (hackers) and reorganize production. These two phenomena hint towards a new regime of ownership of digitalized products or “knowledge goods”. At the same time, open source and open data remain mere buzzwords words that consultants use to create legitimacy for enacting the next management fad followed by organizational change.*
- » *The topic of the talk is investigating what happens when these kinds of ideas (open source, open data) are adapted in organizational practice. What tensions arise when self-proclaimed openness meets traditions, hierarchies and resource ownership? What artifacts, practices and services stay - and what go.*

Agenda

1. Introduction
2. Open Source Software Production
3. Open Data
4. Future directions: the link between Open Source and Open Data
5. Discussion

1. Introduction: Open Source

- » Historically enclosed commons (example: land property) as a prerequisite of market economy.
 - » Now digital commons are being enclosed.
- » Collective action and commons (Ostrom, 1991)
- » Third commons: Networked resources (Zizek, 2009)
- » P2P Bauwens (2005) third modes of cooperation, governance and ownership
- » Markets as less effective than certain other modes of production (Benkler, 2007)
- » Political science (Weber, 2004)

The Cathedral

- » Eric Raymond's (1998) influential book *The Cathedral and the Bazaar*
 - » Group of people pushing towards Open Source (for example Bruce Perens)
 - » Drawing on the ideas of Richard Stallman (free software advocate)
- » Raymond's book as critical research
 - » Driven by certain (social) motives
 - » Drawing on certain libertarian ideals; creates a mythology about individual, voluntarism, freedom, community and autonomous projects.

Some common misconceptions about OSS: Developer

- » “Focus on individual developer, scratching an itch”
 - » But what happens when organisations adopt?
- » “All developers are users”
 - » But not all users are developers. Populations differ significantly. In almost every case, users cannot contribute code.
- » “Developers do not get compensation”
 - » Currently, most OSS developers work in software companies and their work is related to OS.
- » “Developer task assignment is voluntary”
 - » But often rewarded and constrained

Some common misconceptions about OSS: Community

- » “Communities are similar”
 - » They are very heterogeneous
- » “Mystified community”
 - » Raymond’s inbuilt bias against any collective action, institution or especially government
- » “Benevolent dictators”
 - » Right, just aren’t they all.

Some common misconceptions about OSS: Projects

- » “Consensus on project goals”
 - » Please visit any developer mailing list
- » “Projects succeed”
 - » 99,9% of projects are run by 1 person, and fail.

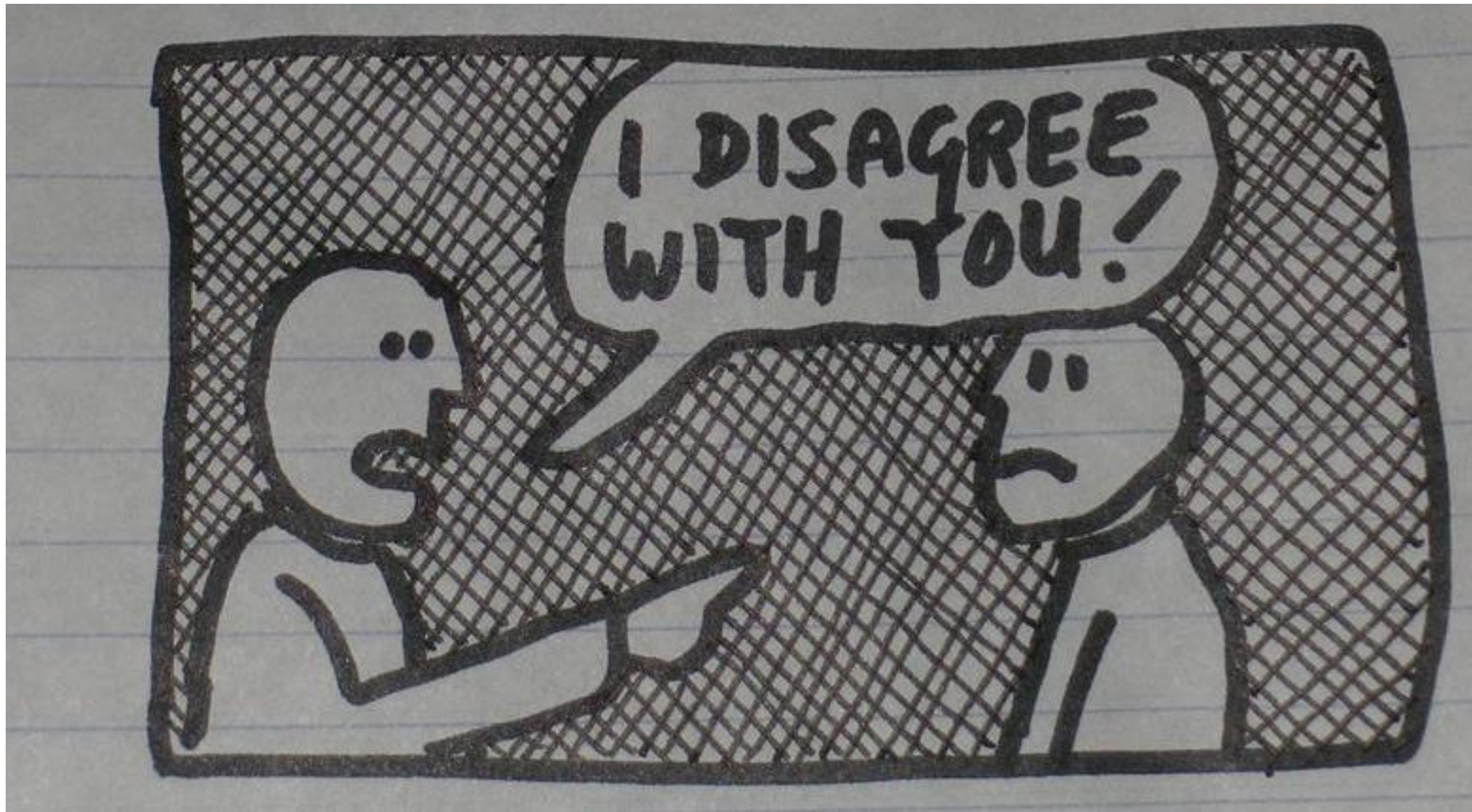
Recap

- » No:
 - » Only by a community of voluntary anarchistic hackers
 - » Making software mainly for themselves
 - » Primarily for fun
- » Instead:
 - » Most people engaged in OSS work in software companies
 - » Many contributions are paid and mediated by company hierarchy
 - » Revenue is gained by complementary product/service offering
 - » Most citizens are not hackers, nor want to be

Why?

- » One (speculative) explanation
 - » Original book genre: utopian
 - » Grand narrative of (global) openness emerging from the UG
 - » Silicon valley, “*Information wants to be free*”
 - » Openness in society, in workplace etc.
 - » Problems with the story
 - » Developers: far from marginal
 - » Several audiences
 - » Need to not be too specific about (political/social) goals
 - » Developer, community, projects, openness
 - » Efforts to bring it into organizations, OSS 2.0, inner source etc.
 - » Clashes in philosophy, but also in practices

*...and then we release OSS upon
unsuspecting population*



Diffusion at the level of society

- » Diffusion of open source (or open data) in a society requires (political/collective) action
- » Any "new" invention goes through a series of transformations when it becomes part of organizational practice (in a society)
- » Did the grand narrative prepare us?

Example considerations with any new IT

- » Environment
- » Privacy, "leaks"
- » "Digital divide" and social justice in access-based models:
 - » Race, gender, and yes, class

2. Open Source Software Production

- » My dissertation: Part of the ITEA-COSI project
- » What is Open Source Software (OSS)?
 - » I was interested in how OSS technology (tools and practices) changes software production?
 - » Not individual developers
 - » Not OSS communities
 - » Not OSS projects
 - » Not OSS licenses
- » Object of study: organisations
- » Important: results help to leverage OSS

Dissertation settings

- » *RQ: What is the relation between local renegotiation of the term OSS and the OSS technology (tools and practices) provoked organizational change?*
- » 3 parts:
 1. How is the term OSS renegotiated when it enters organization?
 2. How does the organization adopt OSS technology (tools and practices)?
 3. What are the provoked structural changes in organizations and organizational fields?

Short overview of results

- » Need to sensitivize researchers on the nuances of paid development work and hierarchies in software production
- » Move away from over-simplistic or individualistic myths concerning OSS in organizations
- » Suggest how certain changes towards service dominant logic and open innovation are interlinked with OSS adoption.
- » Thus provide solid research understand on the multitude of different ways OSS may (or may not) be leveraged especially in software production
- » Remind the need to build organization in a way that support gaining and incorporating external input

Results

	Classical OSS technology	Renegotiated OSS technology
Reward structure	Mostly voluntary in task assignment, peer-recognition, sometimes sponsored development.	Designated projects, contributions based on (employment) contracts and task-assignment, development costs divided based on negotiation between actors.
Communication structure	Open discussion email-lists, open message boards, web-presence of projects, open documentation, open training materials.	Intranet, visibility to selected partners who share the development costs.

Results: OSS meaning

Case	OSS term renegotiated	Interpretation	Legitimation	Mobilisation
Case 1	Inner source	Changing internal software development	More distributed and collaborative development	Business units gain more control
Case 2	iSource	Hosting and joint practices inspired by OSS	Increased visibility of the software assets internally	Some developers and projects require the tool based on its merits
Case 3	De-facto standard	Company providing a standard to a field	Company needs to do it anyway. Drawing on external resources makes it cheaper.	More open and autonomous development reduces fears of partiality.
Case 4	OSS entrepreneurship	Company providing public source code and services on top of the software	OSS has business benefits related to price, resources and competition.	Groups of founders and customers agree on some of the merits.

Short overview of results

Focus	Dimensions	Impact
Goals	User involvement	FLOSS activity emphasizes user involvement in software development and delivery.
Means	External resources	FLOSS activity emphasizes access to external capabilities rather than internal resource ownership.
Actions	Innovation process	FLOSS-based software development urges software innovators to open up their innovation processes.
Outcomes	Revenue models	FLOSS-based public goods change the revenue models of firms taking part in the development.

3. Open data

- » Data which is made available for legal and technical re-use
 - » Interest in UK, US (tradition of public domain)
 - » Policy push in Finland
 - » Tim Berners Lee 2006 (Linked data design issues)
 - » Data.gov May 2009
 - » Data.gov.uk September 2009
- » Governments collect currently huge amounts of data
 - » Some of it would be useful if made available
- » Data is not enough, also applications

Some claims about Open Data

- » Promotes business
 - » Cuts costs
 - » New services
 - » New business opportunities
 - » For large companies
 - » For small companies
- » Transparency and freedom of information
 - » Basis for democratic participation to a society
 - » Less corruption

- » Freedom of information
 1. European Law 1. Charter of Fundamental Rights of the EU
 2. European Convention for the Protection of Human Rights & Fundamental Freedoms; European Court of Human Rights ruling (April 2009; Republic of Hungary case)
 3. Convention on Access to Official Documents (2008; Europe) 12 Member States
- » Part of the Digital Agenda (action 3) and Europe 2020 etc.
- » Commission own data portal (coming up)
- » 2003/98/EU "Public Service Information directive"
- » 2007/2/EU INSPIRE (spatial information)
- » New directive coming up soon

Policy: Finland

- » Finland (grounds in the constitution)
 - » 3.3.2010 Government resolution to increase use/re-use of governmental data
 - » 10.6.2011/634 Act on Information Management Governance in Public Administration
 - » Ministry of Transport and Communications working group on the Availability of the Public Information
 - » Ministry of Finance Working Group on Interfaces for Public Sector Resources ("Technical" issues related to joint use)
 - » Ministry of Finance Working Group on Promoting the Availability and Use of Public Sector Information Resources
- » Etc.

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Policy: Finland

- ▶ Working Group on Promoting the Availability and Use of Public Sector Information Resources
- ▶ Principle 1: No fees between public sector authorities
- ▶ Principle 2: Information should be made available free of charge, but charges in accordance with PSI are ok



Policy: EU (Commission view)

1. *Creation of a genuine right to re-use public data: all public data not covered by an exception is to be re-usable (does not apply to cultural institutions)*
2. *Obligation on public bodies to make their documents available in a machine-readable format and together with their metadata where possible and appropriate*
3. *Charging rules are amended:*
 - *charges shall be limited to the marginal costs of reproduction and dissemination (does not apply to cultural institutions)*
 - *In exceptional cases public bodies may at maximum recover costs and claim a reasonable return on investment if duly justified*
 - *Burden of proving compliance with charging rules shifts to public bodies*

Industrial policy: two worlds?

- » Dichotomy between the open world and the closed world
- » "Everyone" wants more economic growth, new jobs and value for companies.
- » The disagreement is on the industrial policy which will bring it:
 - » Closed view: proprieties (for example prevailing copyright/patent regimes) incentivize innovation and create growth and jobs
 - » Open view: Opening up the inventions would result in complementaries and more value than keeping it hidden
 - » No common resolution in sight

4. Open data and open source

- » Difference to Open Source
 - » source code vs. data
- » Many similarities
 - » Service business
 - » Services built on private, collective, goods
 - » Large incumbent vs. small new software companies
 - » Small ones often hacker driven
 - » My own background with Open Source



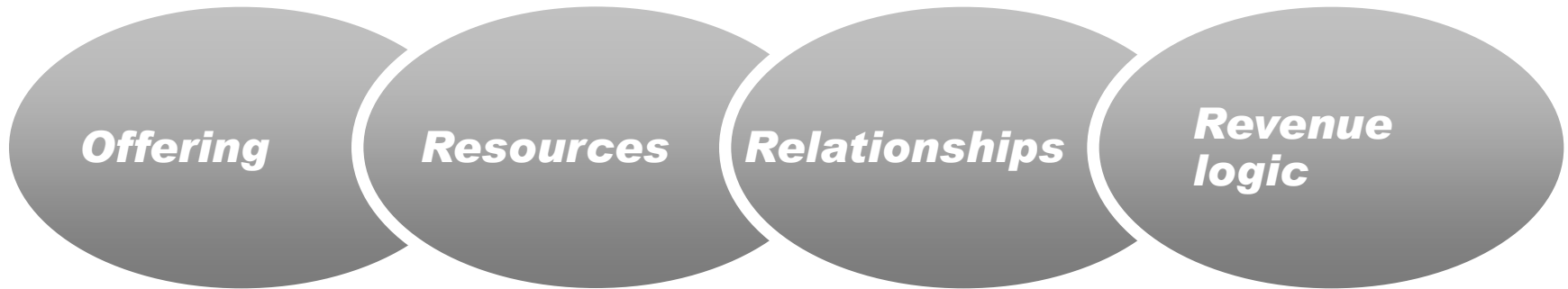
My interests: commercialization

- » Business models
 - » small software companies
 - » transition towards knowledge/service economy
 - » transition towards more open innovation environments
 - » how to commercialise or build on service on top of public goods
- » Business models: value creation vs. value capture
 - » *“An architecture for product, service and information flows, including a description of the various business actors and their roles; and*
 - » *a description of the potential benefits for the various business actors; and*
 - » *a description of the sources of revenue”*
 - » -Timmers

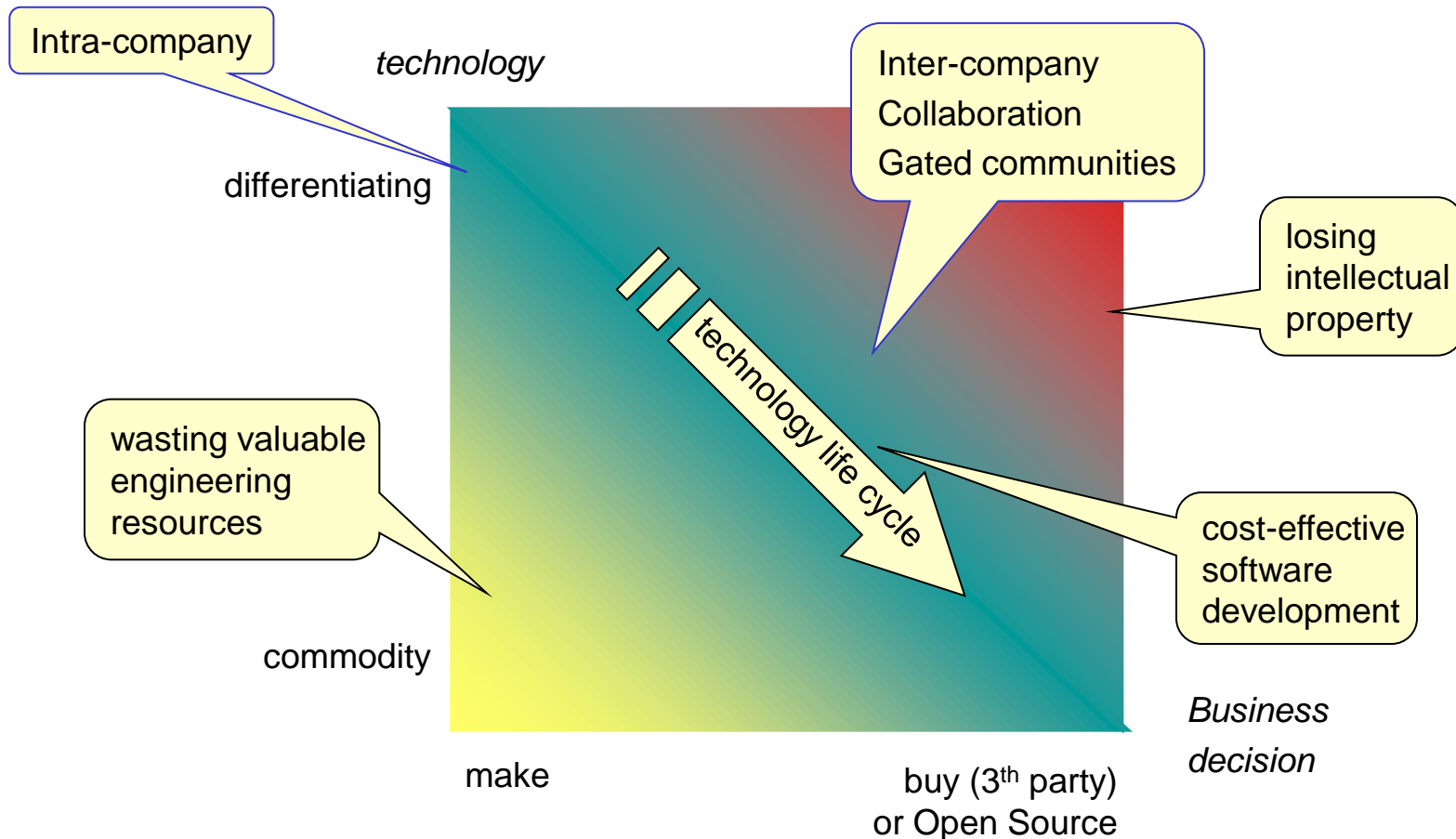
Open source software business

- » OSS Licensed in a way that supports
 - » modification
 - » redistribution of code
 - » Normally no cost
 - » OSS business based on something else than selling the software (consultation, software support, training etc.)
 - » Traditional software license sales normally not possible
- » Often Open Data services built on the ideas of openness
 - » developed within the Open Source tradition

Business model framework (Rajala, 2010)



Software commodification (Van der Linden et al., 2009)



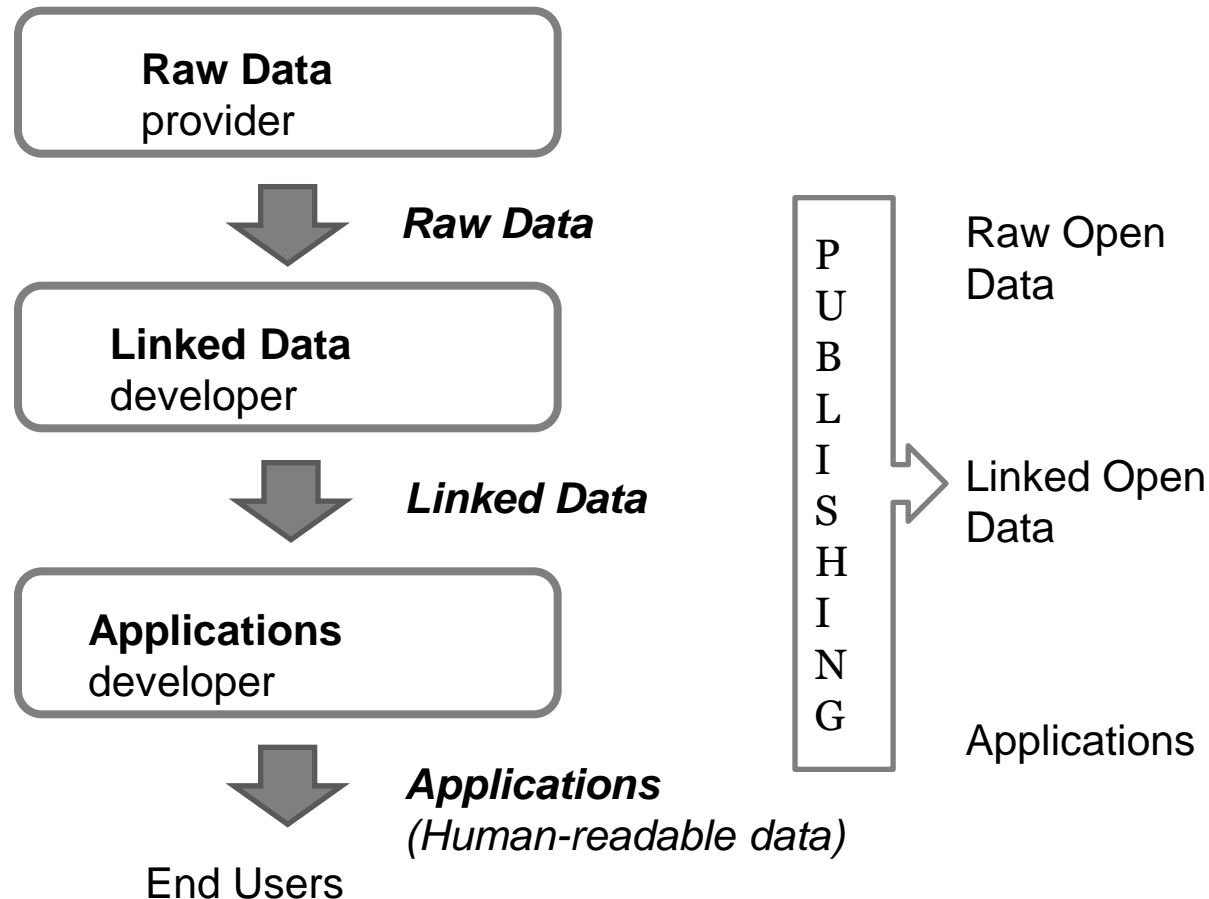
Open data empirical research



- » Empirical research setting concerning
 - » Open data in Finland
 - » Initial stages

Open Data Stage model

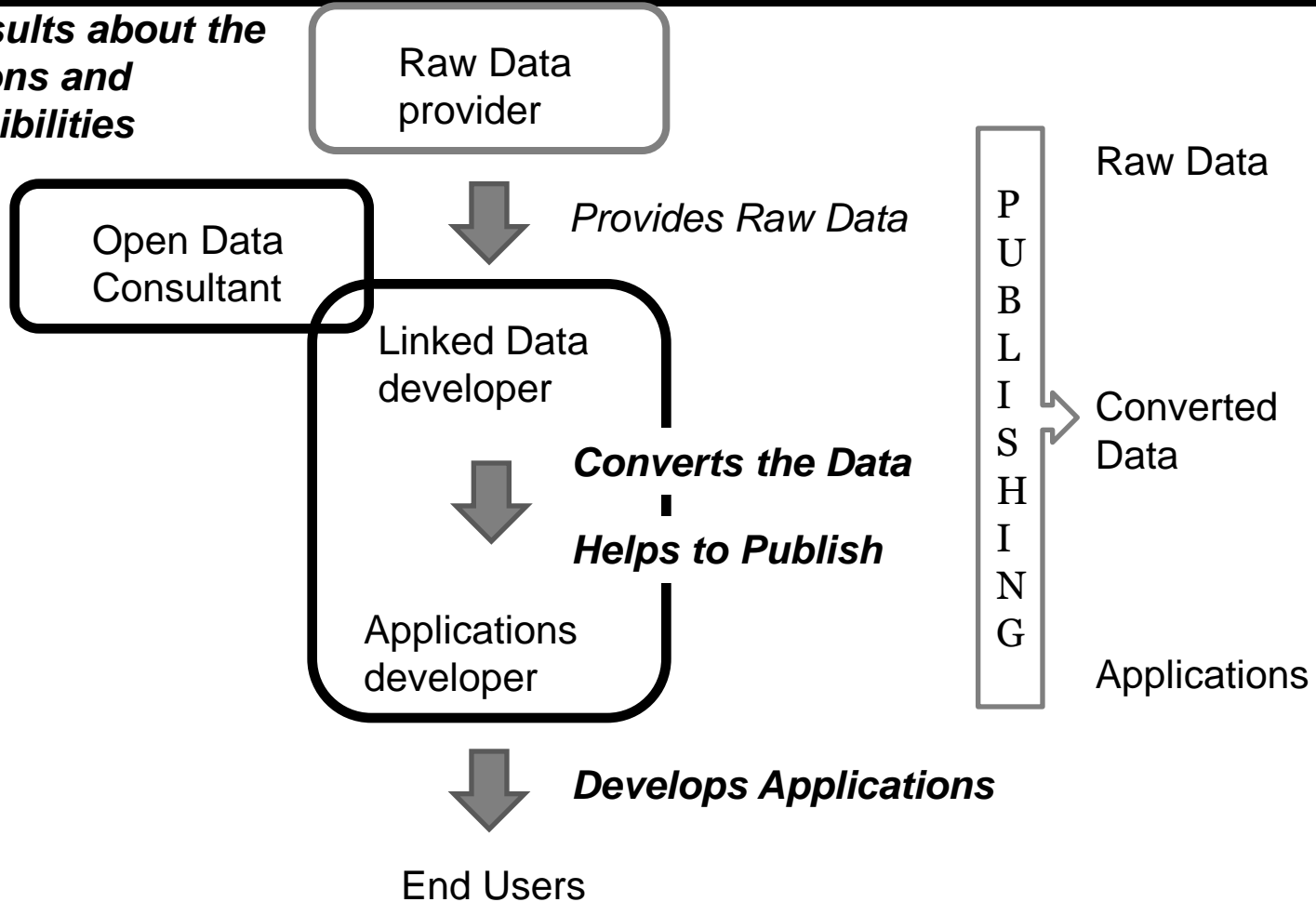
(Tammisto&Lindman 2011, adapted from Latif et al. 2009)



Roles in the value chain

(Tammisto&Lindman, 2011)

Consults about the options and possibilities



Concerns

- » Terms of data licensing
- » Stability and viability of the business
- » Standards
- » Privacy, security, anonymity

(Open) service development perspective (Kuk&Davies 2011)

- » How to turn the released data sets into public value?
(These two are interrelated)
- 1. Developer communities
 - » Topical research questions: Motivations, artifacts, tools etc.
- 2. Companies, entrepreneurs
 - » Topical research questions: value, value chain, business model, licensing etc.
- » Counting the outcomes vs. understanding the process
- » For example number of new companies vs. looking what the developers are doing

Developer communities

- » Existing research in Open Source communities
 - » It is not about the freely licensed stack, but about the developer community
 - » And the heterogenous motivations and social norms (ideology of sharing)
- » Value stack of complementaries (Kuk&Davies, 2011)
- » Releasing the data (rather than restriction to government transactions) enables
 - » 1. new forms of coordination activity
 - » 2. new mechanism of coordination
- » Creation of new artifacts that have enhanced performativity

Developer communities *(Kuk&Davies, 2011)*

- » Open data as a non-material entity
 - » Sequences related to Open data, but centered around the creation of five artifacts (Kuk&Davies, 2011)
 1. Cleaned data
 2. Linkable data
 3. Software source code
 4. Shared source code
 5. Service technology
- » Provide the arena - and the content - for the social interaction
- » Each stack layer can constrain or enable further development

Developer communities (Kuk&Davies, 2011)

- » Business models for different players
 - » Different production models
 - » Revenue models
 - » Different data sources
- » Public, freely available data
- » Peer-to-peer picture sharing as an example of data source
- » However, this is only a very small subset of things that would need to be tackled.
 - » We need more research – and more open data services

Discussion

- » *Both open source software and open data stacks are artifacts that attract developers (hackers) and reorganize production. These two phenomena hint towards **a new regime of ownership** of digitalized products or “knowledge goods”. At the same time, open source and open data remain mere buzzwords words that consultants use to create legitimacy for enacting the next management fad followed by organizational change.*
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Questions?