Information Economics of Open Content Production

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Wikimania
August 5, 2006
Outline

• Open Source Software & Wikipedia
  ▪ Similarities
  ▪ Crucial differences
    • …and key implications

• A few policy suggestions
Broad Similarities

• Production of an information good
  ▪ No reproduction cost
  ▪ Non-rivalrous consumption
• Similar infrastructure
  ▪ Internet-based computer-supported cooperative work
• Social movements with movement goals
• Rapid adoption/growth
  ▪ Increases access by poor/cheap users
  ▪ Helps commoditize proprietary incumbents
Other Similarities

• Similar intellectual property
  ▪ Users own their contributions
  ▪ Content licensed under GNU copyleft
  ▪ Exclusive ® for branding (cf. Apache)

• Non-profit foundation (cf. O’Mahony, 2003)

• Benevolent dictator for life
Similar Production Economics

Similar production via volunteer labor:

• Positive-feedback loop ("network effects")
  ▪ More utility/visibility/"buzz" → more users
  ▪ More users → more contributions
  ▪ More contributions → more utility, etc.

• Niches have problem getting enough labor
But Wikipedia is Different…

• Scope of effort
  ▪ Larger pool of potential contributors
  ▪ Larger (and more heterogeneous) scope of content under one roof

• More ambiguous definition of “done”
  ▪ Quality harder to define/measure
  ▪ Historically, no releases

• Few commercially-sponsored “volunteers”
Focus: Two Key Differences

Wikipedia has disadvantage vs. OSS:
• Monoculture means slower evolution
• Weaker feedback → lower quality
Lessig encouraged license diversity:

• Room for Creative Commons and GFDL
  ▪ “We don’t need monopolies on anything”
  ▪ I.e. competing approaches are good
  ▪ “No single point of failure”

• As Hayek observed, resources are best allocated through market feedback
  ▪ Cf. the old saying “users vote with their feet”
Monoculture vs. Diversity

• Open source has variation and selection:
  ▪ Dozens of major projects
  ▪ 100,000+ minor projects
  ▪ Random (or not) variations on processes, tools
  ▪ Mimetic/selection effects
    • Successful projects have best practices, are copied
    • Unsuccessful ones atrophy or die
  ▪ Result: more robust community

• 1 Wikipedia ≈ 1 set of processes
Weak Feedback Mechanisms

• Fewer economies of scale
• Not user innovation in von Hippel sense
• Low barriers to participation (too low?)
• Diseconomies of scope
Less Economies of Scale

• Software production is partially automated
  ▪ Great tools developed in last 40 years
    • Development, production, syntax checking
  ▪ Post-authorship validation (QC)
  ▪ Solve problem once, use many times

• Production of natural-language content extremely labor-intensive
  ▪ Same problem as mass media
User Innovation

• Eric von Hippel saw the power of user innovation
  ▪ Read *Democratizing Innovation* (free PDF)

• Open source: “scratching own itch”
  ▪ Strong utilitarian motivation
    • “Eat your own dogfood”
  ▪ If someone breaks my module, I want it fixed

• Wikipedia: writer → reader asymmetry
  ▪ I get no utility from my own content
  ▪ Only ego motivates me to monitor it
Low Participation Barriers

- Easier to twiddle than create content
- Emphasis on consistency over accuracy

Eugene Kleiner
From Wikipedia, the free encyclopedia
(Difference between revisions)

Revision as of 00:55, 25 November 2003 (edit)
Joelwest (Talk | contribs)

Revision as of 01:22, 25 November 2003 (edit)
66.47.67.223 (Talk)
(fixed name of Shockley Transistor to match Wikipedia)

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Define: Economies of Scope

• Economies of scope: having wider selection is more valuable or efficient

• One example is “the long tail”
  • Having obscure works increases demand for popular works and vice versa
  • Promise of “one stop” shopping
    • Toys: Toys R Us vs. Wal-Mart
    • Books: Amazon vs. brick & mortar
The “Long Tail”

See Chris Anderson, *The Long Tail*; also www.TheLongTail.com
Diseconomies of Scope

Diseconomies=wider scope $\rightarrow$ less efficient

• Weak content hurts overall legitimacy

• Open source can pick & choose battles
  ▪ Linux is only an operating system
  ▪ Apache is only a web server
  ▪ OpenOffice problems don’t tar Firefox

• Not inherent to collaborative content production
  ▪ Less an issue for bounded sites (IMDB, Wikitravel)
  ▪ But Wikipedia’s goals are deliberately unbounded
Some Modest Suggestions

• New business models
• Releases
• Delegation
• Internal competition
• Technology
Business Models

• Making money key to getting resources
  • Corporate support key to success of Linux, Apache
  • Always some form of cross-subsidy

• Various models:
  ▪ Compilations (GNU magnetic tapes)
  ▪ Razor & razor blade (Linux & IBM mainframes)
  ▪ Teaseware (“free” software but paid support)
  ▪ Premium (free PHP but high-performance Zend)
  ▪ Enterprise market (CollabNet)
  ▪ Advertising (Slashdot)
  ▪ T-shirts (Mozilla)
Releases

- To many, “Wiki” means fluid and dynamic
  - Rare exception: offline dump
- A prereq to winning broader acceptance
  - M. Walker’s “stable” and “validated” proposals
  - Show K-12 librarians the 3.0, not a beta
- Decades of best practice in software
  - 15+ years of best practice in OSS
Delegation

- Centralized authority often lacks control
  - Wild West: authority delegated to US Marshall
  - Suburbia has Neighborhood Watch
- WikiProjects are *post hoc* partial coverage of the existing territory
  - How well known are they?
  - Are they attracting volunteers?
  - Suggestion: quality before breadth
Internal Competition

• A monoculture is dangerous to a species
  ▪ Diversity avoids risk of catastrophic failure
  ▪ Allows selection of best practice
  ▪ Key to the OSS success story

• Wikipedia must explicitly encourage process, policy, tool experimentation
  ▪ By languages, and WikiProjects
  ▪ By creating an “incubator” to test reforms
Tech fixes may help but not solve problems

• Make it easier to improve quality
  ▪ Escalating problems
  ▪ Fact checking/validation marking
  ▪ Rating contributor quality (e.g. Amazon)

• Experiment with other metaphors
  ▪ Validated pages
  ▪ Formal WikiProject control
Thanks!

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