



Open Source and the Private-Collective Innovation Model

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- This time from a economics standpoint.
- Assumption: As society we have an interest in encouraging innovation.
 - To improve quality of life, reduce hardship, etc.
- We adopt a view that ties innovation very much to the actual artifact / invention.
 - An improved version of the Apache Webserver that does load-balancing is called an innovation.
- Two models from Organization Science about the origin of innovations:
 - Private Investment Model
 - Collective Action Model

- Private entities invest into innovations to gain returns.
 - Typical example: Research into new pharmaceutical drugs.
- To encourage this investment, society can grant certain rights to the inventor (copyright, patent law, trade secrets):
 - These assist innovators by restricting the free market for the invention, thus increasing the possible return for the investor.
- Assumption: Spillover of the investment (Revealing of knowledge) is not wanted, since it will reduce the possible return.
- The society needs to balance:
 - Incentives to innovate and loss because of the monopoly granted.

- Model suitable for public goods:
 - Non-excludability (if the good is available to one person, it cannot be kept from another)
 - Non-rivalry (the usage of the good by one person does not diminish it's value for another)
 - Example: A bridge.
- Asks for contributors to place their contribution into a common pool, available to everybody.
- Creates problem of motivating, since the private return is diminished.
 - Create incentive structure to counteract (for instance basic science)
- Free-riding might occur.
 - Example: Cleaning of the side-walk.

- Differs from both models!
- (from Private) Revealing might actually present a gain.
 - The investor gets “eyeballs” and achieves higher diffusion.
- (from Collective) The contributor actually gains something in addition to the public good that is not available to the free-rider.
 - Enjoyment, sense of achievement, feeling of community, learning.
- (from Collective) Free-riders are seen as something good (market share) and are welcomed.
- These are derivations from the general assumptions of both models.

- Software users are the innovators not the software manufacturers.
 - Returns cannot be increased by spreading costs over a large number of units sold.
 - No direct returns from other parties, just own use and indirect incentives.
- Cost of revealing is low
 - Publish on Sourceforge
 - Software is pure information.
 - Contrast this with Open Hardware
- Loss by having revealed is low, too (almost no rivalry) and might be actually be a gain -> help from others

- Is forcing people to stay public more efficient than allowing them to switch from OSS back to private-investment model (GPL-style vs. BSD-style licenses)
- Which form of private return drives contributors? (see literature about OSS motivation)
- Invention vs. Innovation in the OSS world
- Process Improvement in the OSS world:
 - Can we enhance the private-collective model by tweaking knobs?
 - For instance: Should OSS projects actively recruit new contributors?
 - For instance: Should OSS projects reward contributors with special social status (“Chief Lizard Wrangler”)?

- Eric v. Hippel & Georg von Krogh.
Open Source Software and the "Private-Collective"
Innovation Model: Issues for Organization Science
Organization Science, INFORMS, 2003, 14, 209-223.



Thank you!