Social capital and open source software movement

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Overview

- Literature review

- Methodology

- Analysis

  – Background

  – Motivation of the contributors

  – Development of Linux

- Discussion

- Conclusion

Literature review

- Hanifan (1916)

  - Goodwill, fellowship, mutual sympathy, and social intercourse

  - Leadership

  - Uneven distribution

- Bourdieu (1980)

  - Social obligations (connections) convertible to economic capital

  - Credential that entitles credit in the short or long term

  - Durable obligations (gratitude, respect, friendship) for mutual and group recognition

  - Expenditure of time and energy

  - Economic value institutionalized in the form of priviledged class and culture

- Coleman (1988)

  – Social structure and actions of actors within the structure

  – Not be easily interchangeable

  – Importance of information and flow mechanism

  – Role of human capital

  – Generates both economic and non-economic goods

  – Overcomes the problem of public good

- Putnam (1995)

  – Network of civic engagement that

    ∗ Fosters norms of reciprocity, trust, and reputation
    ∗ Collaborates
    ∗ Broadens view of collective benefits

  – Economic and political incentives reduce the effectiveness

- Fukuyama (1995/2000)
  - Based on a set of informal values or norms
  - Created by people spontaneously
  - Ethical values
  - Non-rational behavior
  - Uneven distribution

- Portes (1998)
  - Paradox of social capital

- Lin (2000/2001)
  - Flow of information
  - Social ties
  - Individual's credentials
  - Identity and recognition
  - Negative implication

- Harris & de Renzio (1997)

    – Missing link in the global economic development

- Fukuyama (2002)

    – Supports democratic processes and political institutions

Methodology

- Hypothesis

  – Open source software (OSS) movement exhibits the growth of social capital

- Case study

  – Initiatives

  – Motivations of the contributors

  – Linux development trend

Analysis

- Internet and the growth of virtual and informal, social communities

- Hacker culture

    - Time and money do not matter

    - Social ties matter more than life

- Developed by a community of contributors

- Free/open source codes

- Public good

Timeline

- 1985: Inception of GNU's Not Unix (GNU) project and establishment of Free Software Foundation (FSF) [Richard M. Stallman]

- 1991: Linus Torvalds informs about the free operating system

- 1997: Publication of *The Cathedral and the Bazaar* [Eric S. Raymond]

- 1998: Establishment of Open Source Initiative (OSI) and leaking of *Halloween Documents*

- 2004: Software Freedom Day (August 28)

Motivation of the contributors

- Knowledge workers are motivated as altruistic volunteers (Drucker 1999)

- Individual perspective (Sawyer & Guinan 1998)

- Reciprocity (Baird 1997)

- Scientific knowledge is gifted in the forms of ideas (Bergquist & Ljungberg 2001)

- Gift of code based on the kinship amity (Zeitlyn 2003)

- Reputation game based on giving rather than controling (Raymond 2001)

- Craftmanship based on strict meritocracy (Raymond 2001)

- Extrinsic motivation is dominant (recognition, pecuniary gain, and personal benefits) (Hars & Ou 2001)

- Signaling incentives arising from career concern and ego gratification (Lerner & Tirole 2002)

Development of Linux

- Technical and sociological paradigm

- First version was released in September 1991 and had around 10,000 lines of code

- Contribution fitted to areas of expertise

- Self-selection and absence of contractual obligation

- Linus Torvalds assumes leadership

- Informal guiding rules and management structure
  - Standardization
  - Workflow coordination
  - Mutual adjustment

- At least one annual meeting

- Linux Foundation for development, protection, and cooperation

- Linux International for promotion

- Linux vendors and consultants such as Red Hat, Mandrake, and Suse

- Linux Journal and Linux Gazette

- Linux user groups and Installfests

- Online activities

- Business collaboration

Discussion

- Class culture

- Motivation

- Leadership and personal credential

- Functional structure (formal and informal)

- Information channel

- Human capital

- Self-sustained

- Public good

- Closed structure and social exclusion

Conclusion

- Social capital accumulates but in different ways

- Mode of information transfer and interest/motivation affect social capital

- Decline in one area can contribute to another area

Finally,

- Questions

- Comments

- Suggestions

- Feedbacks