



Chapter VII

The Chase for OSS Quality: The Meaning of Member Roles, Motivations, and Business Models

Benno Luthiger, ETH Zurich, Switzerland

Carola Jungwirth, University of Zurich, Switzerland

Abstract

This chapter explains why software users have good reasons to trust in the quality of OSS, even if they might have internalised the rule “If something has no price, it also has no value!” We present the idea that a system of incentives of both private programmers with their different motives to participate and companies paying their programmers for contributing to OSS, are responsible for the software quality—even if all programmers do not pursue a common purpose. The chapter delivers a conceptual framework from an economic perspective showing that every stakeholder can provide valuable input to the success of an open source project. Crowding out between contributors with different motivations does not necessarily exist even if companies with monetary intentions participate. Therefore, we assume OSS as an attractive forum for different interests that can seminally intertwine, while quality software is generated nearly as a by-product.

Introduction

Open source developers produce software—frequently of high quality—that is freely available for everyone. For computer users that are accustomed to purchasing outright the software they use, this might sound puzzling: Is it possible that something *free* is at the same time *good*? Therefore, such computer users, assuming a trade-off, might doubt the quality of open source software and hence refrain from using such software. Computer users that apply software in a business context, for example, may abstain from using open source software even if such software is available at no cost if they are not confident about the quality of such software. Using software in a business context means a heavy investment, even if the license fee of the software used is null because considerable TCO (total costs of ownership) exists. Integrating certain software in the business process leads to a lock-in situation in a manifold way (e.g., investments in human capital, system reorganisation, etc.). Thus, crucial for the future success of open source software is not the fact that there is no associated licensing fee, but the question of the quality of such software.

What can we learn about open source software if we look at developers motivation? Understanding the motivations of open source developers allows us to assess the importance software quality has for these software developers and to comprehend the conditions needed for that software quality to be realised. This insight might increase confidence in the quality and sustainability of open source software and, as a result, lower the barrier to use it.

Although examples of high quality open source software are well known, open source still has the connotative impression of being the play area of hobbyists. This impression is not necessarily far from the truth, insofar as most of the open source projects existing on open source platforms (e.g., SourceForge) are indeed the outcome of hobbyists, as various studies show (see Krishnamurthy, 2002; Weiss, 2005, etc.). However, the numbers in our FASD study¹ and in other studies (e.g., Lakhani & Wolf, 2003) indicate that professional developers who are compensated for their work do a significant share of open source software development. Indeed, the commitment for open source projects primarily occurs in their spare time; on the other hand, the share of open source projects developed within working time amounts to a considerable 42%. Professional open source projects might be underrepresented in previous studies, like our FASD study, because firms can afford their own project infrastructure and, therefore, are not dependent on the open source platforms we have addressed in our study.

This recognition shows that the motivations on the programmer level on the one side and the motivations on the firm level on the other side should be distinguished. The former concerns developers who commit themselves to contributing to open source

20 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/chapter/chase-oss-quality/10086

Related Content

Factors Affecting the Development of Absorptive Capacity in the Adoption of Open Source Software

Kris Venand Peter De Bruyn (2013). *Open Source Software Dynamics, Processes, and Applications* (pp. 18-39).

www.irma-international.org/chapter/factors-affecting-development-absorptive-capacity/74661

Open Source Adoption Index: Quantifying FOSS Adoption by an Organisation

Sanjeev K. Saini, C. N. Krishnanand L. N. Rajaram (2010). *International Journal of Open Source Software and Processes* (pp. 48-60).

www.irma-international.org/article/open-source-adoption-index/51586

Understanding Users' Contributions in Open Source Software Communities: A Social Influence Perspective

Tao Zhou (2021). *Research Anthology on Usage and Development of Open Source Software* (pp. 186-199).

www.irma-international.org/chapter/understanding-users-contributions-in-open-source-software-communities/286572

Combining Data Preprocessing Methods With Imputation Techniques for Software Defect Prediction

Misha Kakkar, Sarika Jain, Abhay Bansaland P.S. Grover (2018). *International Journal of Open Source Software and Processes* (pp. 1-19).

www.irma-international.org/article/combining-data-preprocessing-methods-with-imputation-techniques-for-software-defect-prediction/206884

Free Access to Law and Open Source Software

Daniel Poulinand Andrew Mowbray (2007). *Handbook of Research on Open Source Software: Technological, Economic, and Social Perspectives* (pp. 373-381).

www.irma-international.org/chapter/free-access-law-open-source/21202