



How do Firms Make Use of Open Source Communities?

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Relying on four in-depth case studies of firms involved with open source software, we investigate how firms make use of open source communities, and how that use is associated with their business models. Three themes – *accessing*, *aligning* and *assimilating* – are inductively developed for how the firms relate to the external knowledge created in the communities. For each theme, we make an argument about the tactics associated with each theme and their positive and negative consequences. The findings are related to the literature on the open and distributed nature of innovation, and various theoretical and managerial implications are discussed.

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Introduction

A large body of literature argues that innovation processes are often open and distributed and transcend organizational and geographical boundaries.¹ This line of argument indicates that innovation stems not only from a firm's internal investments in R&D, but also relies on important inputs from a variety of external sources, including competitors, consumers, public research institutions, universities and other types of organizations.² To access expertise from beyond their boundaries, firms use a variety of mechanisms including licensing agreements, alliances, joint-ventures and informal social interactions.³ Chesbrough, one of the most frequently cited authors on the topic, notes that '*firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as firms look to advance their technology*'.⁴ The distributed nature of the innovation process is particularly evident in instances where new technologies have facilitated the rapid exchange and diffusion of information, with decreased transmission costs and to a larger range of potential participants.

One example of such a distributed innovation process is free and open source software (FOSS), which allows for software code to be continuously improved, modified and diffused. Using communication technologies, participants in FOSS can jointly create advanced software solutions, and new developments are shared in a collective manner within communities, and are often safeguarded from depletion by firms. O'Mahony, for instance, notes how the use of various kinds of legal and normative mechanisms within FOSS communities hinders firms from 'stealing' source code and making it proprietary.⁵ Many firms, therefore, face the challenge of extracting profit