Chapter 1.4
Open-Source Software Issues

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INTRODUCTION

Two major research publications have recently dedicated special issues to the emerging field of OSS (Research policy, 2003; Management Science, 2006). Likewise, major information systems conferences are starting to list OSS as a research track (IRMA2004, Working IFIP 8.6) translating the heightened importance of this phenomenon in the business world. Undoubtedly, OSS has been admitted as a legitimate field of study in the realm of business academics, but OSS research remains largely trailing the gigantic developments in the open-source industry. For instance, there are recurrent speculations in specialized IT magazines that Microsoft will go down the drain with the OSS phenomenon (Fontana, 2003); Oracle will have a hard time maintaining its supremacy in the database market (Bank, 2003); and Apple might come out the big winner by latching on to OSS (Brockmeire, 2003). However, there is hardly any solid piece of academic research to forecast the outlook of the IT industry in light of the surging OSS phenomenon. Existing research, including the two special issues mentioned above, is focusing on validating models of innovation in a virtual environment (Franke, 2003; Von Krogh, Spaeth, & Lakhani, 2003; Hippel, 2001); tracking project management dynamics in OSS development (Hertel, Neidner, & Herrmann, 2003; O'Mahony, 2003); examining the intellectual property, ethical and legal implications of OSS (Evers, 2000; Faldetta, 2002); or reworking the economics underlying software development in the case of OSS (Zeitlyn, 2003). Much less has been done in critical areas pertaining to the new competitive game introduced by OSS; the sustainability of the OSS business model or models; the strategies for OSS licensing; the economic and business viability of OSS in light of potential challenges and opportunities; and the nascent national and government IT strategies centered on OSS; plus a variety of other issues that are beyond the scope of this short article.

This article seeks to clarify the critical factors that will increasingly determine the success of OSS in becoming a mainstream choice for software procurement processes. Along with a definition of each of these factors, potential research avenues are indicated. However, these factors are not meant to be exhaustive in any fashion.

OSS: A BRIEF DEFINITION

The most basic definition of open source software is software for which the source code is distributed along with the executable program, and which includes a license allowing anyone to modify and redistribute the software.

Actual licenses for OSS vary between different companies and development projects, but they have certain characteristics in common. The Open Source Initiative, a group of developers who disseminate information on the benefits of open source (see www.opensource.org) has posted on its Web site a "meta-definition" of basic conditions they feel should be included in an OSS license. These include:

- Allowing free redistribution of the software without royalties or other fees to the author.
- Requiring that source code be distributed with the software or otherwise made available for no more than the cost of distribution.
- Allowing anyone to modify the software or derive other software from it, and to redistribute the modified software under the same license terms.
- Any software distributed under a license that conforms to these requirements is open-source software, according to the Open Source Initiative.

Although OSS solutions are increasingly available for an increasing number of business applications, it is very unlikely, however, that users are currently undertaking comparisons between alternative solutions. Nonetheless, it is a matter of time—and probably a short time—until open-source solutions become a must-consider item in software procurement decisions.

OPEN-SOURCE LICENSING

Many different types of OSS licenses are in use, almost as many as 50. The increasing number of license types under which open-source software is distributed could prove damaging to the overall development of OSS. Nonetheless, as a group OSS licenses could be clearly distinguished from conventional proprietary licenses. The latter are generally designed to take away the user freedom to share and change the software, which is the object of the license. By contrast, open-source licenses explicitly guarantee the freedom to share and change software without any permission from its original owner (Evers, 2000).

The General Public License (GPL; see www.opensource.org/licenses/gpl-license.html is the most important license, as key open-source software solutions are distributed under its terms; most notably, the Linux kernel (Evers, 2000). Not only does the GPL guarantee the freedom to share and change software, but it also requires that anything linked with the concerned software be distributed as free software, as well. This is known as the "virus" effect (Evers, 2000). A consequence of this is that any software developed based on the Linux Kernel, for example, has to be shared back with the open-source community, hence released under a GPL itself. This has had a very positive consequence on the development of Linux as a major player in the server open-source market and even as a potential contender to unsettle Windows desktop hegemony. Conversely, other operating systems distributed under open-source licenses

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