Open-Source Software: Value, Cost, and Supporting Open Government

O pen-source software (OSS) is software that allows users access to its source code. It allows users to modify the program according to need and to develop new code that improves the application. A common misconception about OSS is that it is free-of-cost. While this is sometimes the case, the cost of OSS is often found in support services rather than in product acquisition. This fact sheet provides information about the value and potential cost associated with adopting OSS, discusses the relationship between OSS and open government, and provides questions to be asked when evaluating OSS.

THE VALUE IN MODIFYING SOURCE CODE

Software is not programmed to address every situation; even sophisticated commercial, closed-source software may be limited by the scope of a developer's vision of what it should do. Overcoming limitations is one of the reasons why closed-source software developers release new versions. While new versions help meet users' needs, buying another version every few years can be expensive, and it can take time and training to master the updated product.

Open-source software communities modify source code to address changing needs as those needs arise. Thus, if someone using Libre Office, an open source alternative to Microsoft Office, finds that Libre Office lacks a useful tool, users may access the source code and build a tool to address this need. Alternatively, if a user finds that something is missing from Microsoft Office, s/he must wait for Microsoft to release a version that includes the needed feature.

THE COST OF OPEN-SOURCE SOFTWARE

Open-source software and its supporting code are generally free-of-cost to download, use, and modify; however, services related to OSS might not be. Individuals and for-profit businesses can charge for specialized training or for developing new extensions

to the core OSS code. For example, R is an open-source environment and programming language for statistical computing that is also free-of-cost. Where R offers no-cost access to its software and source code, Revolution R Enterprise, a proprietary spin-off, markets a faster version of R. This proprietary spin-off can process very large data sets and offers, for a fee, training, consulting, and technical support services. Though the services cost money, the cost may still be

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smaller than what legacy commercial products charge, and, if an R user does not need the additional services, then s/he does not pay for them.

OPEN GOVERNMENT AND OPEN-SOURCE SOFTWARE

Common to open government and OSS is accessibility and participation. The federal government, as a part of its Open Government Initiative, launched the Open Government Platform (OGPL). The OGPL is an open source web platform providing the functionality seen on data.ca.gov. The goal is to encourage national, state, and local polities to make their data accessible and transparent. Because it is OSS, the source code is available, and any entity can modify the code to suit its data-posting needs.

Public participation in government processes is also encouraged by OSS. Not only does participation mean developing government-sponsored OSS and websites for public commentary about government activities, but it also can mean creating applications (apps) developed by members of the general public using

OSS. For instance, Neal McBurnett used OSS to develop an app to improve election accountability in Boulder, Colorado.

EVALUATING OPEN-SOURCE SOFTWARE

There are risks involved in adopting OSS. Experts have identified several important criteria to consider when evaluating OSS. Organizations using OSS ranked stability, savings, and protection among other features as important in their decision to adopt it (see Figure 2). And, before deciding to test and adopt any OSS, answering the following questions is of value:

• Does the OSS community regularly release new versions? Regular bug fixes and security updates as well as updated versions suggest a robust product.

• How long has the OSS community been around? Longevity suggests that the community will continue to exist in the future.

• What kinds of support services are available? Well-established OSS has an engaged community with many people answering as well as asking questions. The availability of for-profit support services also indicates a well-developed community.

• What kind of program documentation is available? Good OSS communities will have developer and user documentation to explain how to modify the programs underlying the OSS and use the application.

Figure 2: Criteria Important to Organizations that Adopted Open-Source Server Operating Systems (n=220)[1]
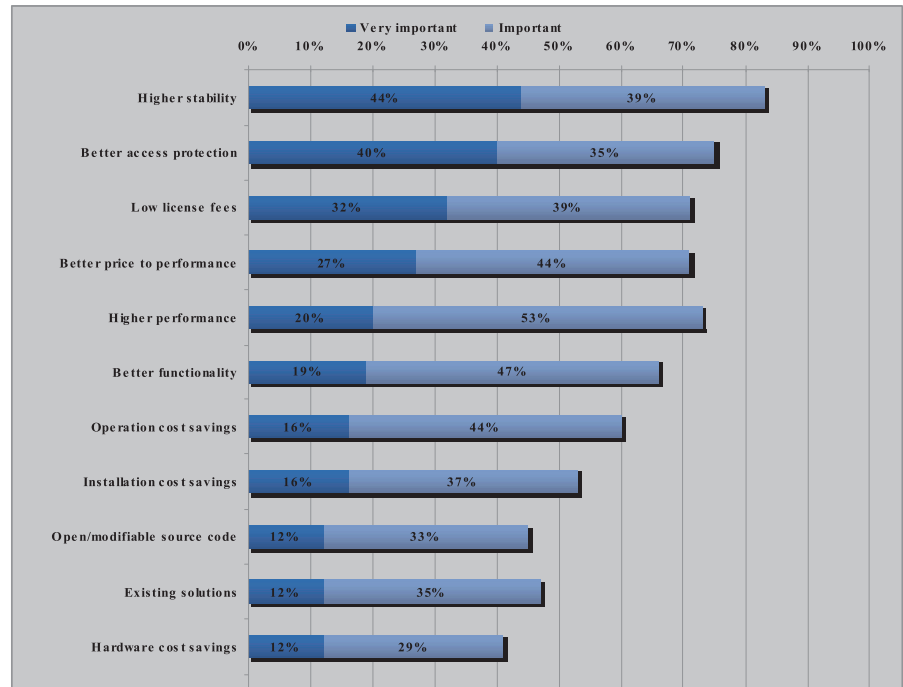
Source: http://www.berlecon.de/studien/downloads/200207FLOSS_Use.pdf

ENDNOTES

1. Adapted from Thorsten Wichman. (2002). "FLOSS Final Report." Berlecon Research, (2002), http://www.berlecon.de/studien/downloads/200207FLOSS_Use.pdf.

2. "Data.gov Releases Open Source Software." (2012), http://www.data.gov/opengovplatform.

3. "Thoughts from OSCON 2009: Open government, concurrency. (2009), http://www.linuxtoday.com/it_management/2009081900435OSEV. See also: "ElectionAudits: a Django App for Advanced Election Auditing," (2009), http://www.oscon.com/oscon2009/public/schedule/detail/8403.

4. For a complete list of criteria see Karen van den Berg, "Finding Open Options: An Open Source Software Evaluation Model with a Case Study on Course Management Systems," Master's Thesis, (2012), http://www.karinvandenberg.nl/Thesis.pdf.