

Free Open Source vs. Commercial Open Source

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Modulus Financial Engineering, Inc. has been a pioneer in the *commercial* open source code movement since the mid 1990's.

In contrast to commercial open source, traditional (or free) open source is inextricably tied to the concept of information sharing and a collaborative approach to software development. In the area of copyright laws and trade secrets, these issues have far-reaching ramifications

The concern is a practical one: would using free open source be detrimental and if so, how?

In this paper, we attempt to address this concern by collating current and relevant information from a number of reputable sources and authorities on the subject.

What is Open Source?

Most people associate “open source” with “free software” but that is actually quite inaccurate.

Prior to properly exploring the differences between free open source and commercial open source, we must first understand what “open source” actually means.

“Open source” in the literal sense means that a software product's source code can be acquired and modified, after agreeing to a license agreement of some variety.

Free open source products are usually governed by licenses designed to keep software free and open to the public, such as the GPL, MIT, Expat, BSD, Artistic or Apache license.

It is important to note that with free open source, multiple licenses are frequently used simultaneously within various modules of the codebase, each license carrying different legal constraints and restrictions that can be difficult to keep track of.

Almost always, free open source code is maintained by a community of volunteer developers and typically, on-demand support is not provided, but is often available if you pay for it.

Many have learned that free open source often costs just as much, if not more, than commercial open source due to legal issues, slow bug fixes, security issues and higher support costs.

Commercial open source on the other hand, is always developed and maintained by a dedicated team of developers within a company, the software and source code are usually governed by only one license agreement and typically, on-demand technical support is provided to the licensee. While you are not allowed to redistribute the source unless you are transferring your license, you are also not obligated to open your software application's source code to the public. Also, generally, a commercial open source license is irrevocable unless you breach it. Not so with most free open source licenses.

Those are the similarities and differences between free and commercial open source and as you can see, they are quite drastic.

During the recent economic crisis, private companies seeking to be acquired have seen their valuation drop, or have seen acquisitions fail altogether, as a result of free open-source software discovered during the due diligence process.

According to Pearlman and Wittow (2009) , public companies which use free open source have listed the source code as a major risk factor, while those who exclusively use commercial open source code go as far as to highlight it as a positive factor.

Free Open Source - Misnomer

When debating about the value of free open source, what inevitably comes up is that free open source can reduce costs because users no longer have to buy licenses or pay royalties. This is actually an inaccurate claim. Just as there are some free proprietary programs and applications, there are also open source products which are not free. For instance, Brown (2002) explains that while users can use Adobe Acrobat Reader without paying anything, it is actually proprietary software because its publisher Adobe keeps its source code closed and secret (and has no intentions of making it open). Also while the web server Apache is actually open source, its source code is widely used in commercial applications for which users are asked to pay.

Having established that free access and use is not an exclusive quality of “free” open source, we now move on to other potential disadvantages.

Arrested Development

Free open source projects, unlike commercial open source software, are mostly done by volunteers and enthusiasts who don't get paid for their efforts. As with any collaborative project where developers can come and go as they please, the development of a particular free open source does not have the benefit of a common entity's strict governance, which can turn it into a virtual programming free-for-all.

Some free open source projects do manage to reach operational levels, and when they do, they find their way into businesses who are trying to save on costs. However, as software programs

will inevitably develop certain bugs, constant improvement and modification is required to come up with fixes as they are needed. And here is where business owners pay for the “free lunch”.

In a doctorate level study entitled *A taxonomy for measuring the success of open source software projects* (Ghapanchi, Aurum and Low, 2011), the authors made an exhaustive study of free open source projects in an effort to gauge their rate of success. They found that:

*(t)he large majority of free open source projects show little activity or even become inactive over time, **meaning that they are abandoned by developers** (emphasis added). In fact, the main reason for the higher failure rate of free open source project compared with proprietary software projects is their high dependence on volunteer developers and voluntary contributions from the free open source community (Ghapanchi and Aurum, forthcoming). Krishnamurthy (2002) confirms this by stating that 63 percent of free open source projects on Sourceforge.net, the world's largest free open source host, experience failure because of their inability to attract user interest and contributions from developer community.*

This means that if you adapt free open source into your system and you run into a bug, chances are high that a fix will be very expensive, if you find a fix at all. After all, one can hardly demand that volunteer developers continue to spend time on a project which does not earn them profits.

Also free open source development is not a continuous process – one can't really predict where or when bugs will appear. So if you end up with an abandoned project that develops a bug, what do you do?

Unlike commercial open source products, which have technical teams that provide after-sales support and continuously develop better versions of their product and source code (because they have an incentive for doing so), you're on your own. Hiring developers to fix a free open source bug can easily run into tens of thousands, not to mention the loss due to disrupted business or trading. Imagine having your firm's trading suspended due to an unsolvable bug, or a bug that takes up to three weeks to solve due to a steep learning curve associated with having new developers learn the “free open source.

You Get What You Pay For (\$0.00)

Software developers who write code for a living will admit that some free open source does have value. After all, a product could potentially contain contributions from some of the most talented developers in the industry. However, a more likely scenario is one which *The Economist* points out in a 2006 article:

*But the biggest worry is that the great benefit of the open-source approach is also its great undoing. Its advantage is that anyone can contribute; the drawback is that sometimes just about anyone does. This **leaves projects open to abuse**, (emphasis added) either by well-meaning dilettantes or intentional disrupters.*

One needs to look no further than the vandalism that occurs on Wikipedia to realize that public, unregulated collaboration has no place in the financial software industry. Pranks and financial software do not go well together.

What about quality? After all, if any programming wanna-be can mess with your source code, anything can happen. A certain amount of trial and error experiments may yield great educational value but for a trading application, any mistake can easily mean losses that can be hard to recuperate (think “margin call”). Even minor failings like redundant code (not even erroneous code, mind you) has been established to be correlated with major problems.

Aside from cost, does free open source have any advantage to begin with? Even the most successful projects seem to be just stripped down versions of closed source programs. Take for example, Apache and MySQL. These products are really far from innovative—in fact, far from being bug-proof, they actually require far more updates than their closed source counterparts.

“Few CEOs, just having spent millions developing a product that gives a competitive advantage, will then release all of that hard-won capital to the public domain” (Ganssle, 2000).

Altruistic Motives? Not Really.

Advocates of free open source like to tout the benefits of collaboration and sharing, painting the publishers and developers of commercial software as greedy corporations. Of course, they fail to mention one crucial thing: most of the free open source developers now are no longer students or hobbyists looking to express themselves in code poetry, but in fact, they are developers looking to capitalize their own financial agenda. For instance, as Ganssle adroitly cites, Cygnus and Red Hat were able to create companies built around support and consultation services for those who availed of their supposedly free software. In fact, this business model was so well-planned that their tongue-in-cheek tagline says it all: *We make free software affordable.*

Legal Issues

Free open source, as it turns out, can be remanded from free use and access at anytime. One such mind-boggling case is that of WURFL (now ScientiaMobile) vs. OpenDDR.

The background of this legal case goes like this: WURFL (Wireless Universal Resource File) is a free open source project headed by developer Luca Passani. Now, in the interest of the great collaborative approach made possible by having used a free open source license, some other software developers used WURFL as basis for creating better versions with enhanced features and capabilities. DeviceAtlas is one such example, as it the new OpenDDR program. That's great news for the users, right?

Here's the problem: in 2011, having realized that he has actually created a highly marketable product, Passani decided to fork WURFL and re-license it to ScientiaMobile so as to enable him

to make profits out of it. Now that WURFL is no longer a free-for-all, that essentially means that the source code is now copyrighted material; consequently, ScientiaMobile filed a lawsuit against GitHub, the developers of OpenDDR for violation of that copyright.

Under US law, even the end users of a product using stolen copyright are liable damages. The fact that WURFL can actually (and did) re-license a previously open source code now has corporate hackles raised in the booming mobile phone industry.

And this is not by far an isolated case of a free open source -turned-liability scenario. In fact, just last year, Google was actually fined five million dollars for infringing on a patent held by a company called Bedrock Computer Technologies (BTC). Apparently, the Linux kernel infringes on a patent which was granted to BTC. As Google uses the Linux OS, it was thus an unwitting accomplice in copyright violation. And since other giants like Yahoo, MySpace, Amazon and AOL are also using Linux servers, they are also being targeted by BTC and being forced to pay royalties—or else.

And since BTC executives are now presumably laughing all the way to the bank, the doors have been opened for patent trolls to make millions off other unsuspecting users. NPEs (Non-practicing entities) are in the habit of buying and amassing cheap patents and then they wait for violations so that they can collect their bounty.

Maintaining Your Business Value

While proponents of free open source proclaim the benefits of "free code," it might better be compared to the free puppy offered to a good home. The "puppy" may come at no initial cost, but the ongoing maintenance and undisclosed hidden dangers may create unforeseen hassles in your corporate home. Free open source has complex legal complications that can create copyright and patent compliance issues and corporate transaction challenges for companies that rely heavily on customized software or that distribute software to partners or customers (Pearlman and Wittow, 2009).

As early as 2004, federal financial regulatory agencies such as the Federal Reserve and the FDIC, have jointly issued guidance on the various strategic and legal risks arising from the use of free open source. And even public companies recognize that their use of OSS constitutes as a business risk factor. Pearlman and Wittow (2009) note that in issuing their annual reports, public companies which use OSS have listed it as a risk factor, while those who exclusively use closed source software even went as far as to highlight it as a positive factor. In the recent economic crisis, "(p)ivate companies seeking to be acquired have seen their valuation drop, or have seen acquisitions fail altogether, as a result of open-source software discovered during the due diligence process".

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