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The small print for BIG IDEAS

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The Legal Issues to Think About When Using Open-Source Software

The history of open-source software:

In the past, open-source software was not common as it was seen as bad for intellectual property rights. Instead, software was treated as a commodity and sold or licensed to gain profit. An open-source movement was started by Richard Stallman after he developed the open operating system GNU in 1983. Throughout the 1980's and 1990's, proprietary software dominated. It was against this backdrop that open-source operating system Linux was released in 1991. Now, open-source software has taken over the world. Many companies in every industry from Walmart to Verizon to Microsoft have open sourced their projects. This publication will explain the basic meaning and the use of open-source software by the enterprise.

What is open-source software?

A lot of software which protects our personal data, encrypts national security information and even that powers the world's largest company is open to the public. Any person can download the source code of software such as Facebook, Google Android, Adobe etc. and use such code as a building block to build their own software. The public are also free to make necessary changes if one sees any default in the software of the existing source code. It can also be said that a lot of this software is developed with the help of thousands of unpaid volunteers and employees of the company. e.g., A person living in a small town can learn from the best developer in the world and even read their code. These are source codes which are written and shared freely; if any person sees a bug or sees an opportunity for improvement, they can suggest changes to the code and become a contributor to some of the biggest projects on Earth. The Open-Source Initiative which was established to promote open-source software has developed a definition of open-source software.

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What are the advantages and disadvantages of using open-source software as a small enterprise?

Current Benefits -

- **Flexibility and agility** - It helps the enterprise to solve problems in multiple ways. Open-source software helps IT organizations from getting blocked due to unavailability of a vendor in a particular situation. Instead of waiting for the vendor to deliver that capability, you can create it yourself.
- **Cost effective and ability to start small** – Developing source code from scratch or licensing commercial software is expensive; the use of OSS helps to mitigate these costs and allows a business to work within a budget
- **Attract talent** – Most businesses are aware of open source and many believe it's where the industry is headed. Software developers enjoy creating their own projects and having the ability to interact with others outside their enterprise to develop solutions. Giving developers flexibility and freedom can be an important tool in attracting better talent.
- **Speed**- small businesses are already competing in terms of speed with all other enterprises; by using open-source software, the enterprise can solve problems and get updates quickly at a limited cost. Professional support and services are made available to such enterprises by using such software.
- **Avoids software becoming obsolete** – because open-source software is constantly being updated by the community of users, it is unlikely to become obsolete.

Current Drawbacks –

- **Difficulty of use** – open-source software is difficult to set up and use. Open-source software doesn't have user-friendly features, and this may create difficulty for your staff to use it efficiently.
- **Security risk**- open-source software is vulnerable to hackers. The software often provides the information needed by the hackers to carry out an attack.
- **Hidden soft costs** – the software may be free to run initially, but it may cost money to run later after you become dependent on the software. For example, setting up of new hardware, the cost of installing and configuring the system, the cost of integrating with existing systems.
- **Liabilities and warranties**- open-source software licences only contain limited warranties with no liability infringement indemnity protection.
- **Quality of OSS can vary** – The quality of open-source software can vary significantly.
- **May Lose Intellectual Property Rights** – incorporating open-source software into your products or open sourcing your own code can mean surrendering control and ownership over one of your business's most valuable assets, the intellectual

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conditions.

property rights in the software. Depending on the type of OSS licence you sign, all changes you make to the software may need to be made available to the public at no charge. It is important to understand and read carefully all software licence terms and

What Is public domain software and commercial software?

	<i>Open-source software</i>	<i>Public domain software</i>	<i>Commercial software</i>
<i>MANAGED</i>	<i>SINGLE OR MULTIPLE COMPANIES OR INDIVIDUALS</i>	<i>BY THE PUBLIC</i>	<i>MAINTAINED BY A SINGLE COMPANY OR INDIVIDUAL</i>
<i>OWNER OF INTELLECTUAL PROPERTY</i>	<i>COPYRIGHT OWNED BY AUTHOR*</i>	<i>TECHNICALLY NO OWNERSHIP</i>	<i>COPYRIGHT OWNED BY AUTHOR*</i>
<i>RESTRICTION</i>	<i>ALMOST NO RESTRICTION. IT IS BASED ON WHAT IS BEING LICENSED AND THE LICENCE ITSELF. EG. IF LICENCE ALLOWS SOMEONE TO TAKE THE CODE AND MODIFY THE CODE BUT NOT DISTRIBUTE IT.</i>	<i>NO RESTRICTION IN USAGE OR DISTRIBUTION</i>	<i>USE ONLY PERMITTED BY RIGHTSHOLDER OR WITH PERMISSION OF RIGHTSHOLDER</i>

***Actual ownership of copyright will depend on who developed the software, whether development was part of an employment relationship and any contractual considerations.**

Open-source software (OSS) licences –

Copies of open-source software can be obtained from various repositories for free, all rights subsisting in the software generally remaining with the owner. These rights include the right to copy the source code, modify it and create derivative works for a profit. The capacity of a third party to exercise these rights depends on the specific terms and conditions in the licence granted by the owner. This is the key element for a start-up: understanding the different licences and what they can/can't do under each licence and in particular how using a certain licence may affect the intellectual property in the software they develop.

Copyright restricts the right to modify, use and share creative works without the permission of the copyright owner. Think about movies, music, etc. that are the intellectual property of their creator. When an author releases a program under a copyleft license, they make a claim on the copyright of the work and issue a statement that other people have the right to

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license is a non-copyleft license that guarantees the freedom to use, modify, and redistribute, while also permitting proprietary derivative works.

use, modify and share the work as long as the reciprocity of the obligation is maintained. In short, if they are using a component with this kind of open-source license, then they must make their code open for use by others as well. In contrast, a permissive open-source

Many open-source software licences are not written by lawyers but by software developers; it is very important to read the fine print carefully, to understand what the licence does and doesn't permit and to seek legal advice when needed.

- a) **Permissive licence.** - This licence is referred to as "Anything Goes" because it places minimal restrictions on how others can use open-source components. That means that this type of license allows varying degrees of freedom to use, modify, and redistribute open-source code; permits licencees to own and commercialise intellectual property rights in proprietary derivative works; and imposes very few restrictions and obligations on licencees (that is, the third-parties who license, use, modify and redistribute the software), other than acknowledging the identity of the initial software developers.

E.g.- **MIT LICENCE** - It states that permission is granted to any person to use a copy of the software and associated documents with the right to use, sell, copy, merge, distribute and modify the software, as long as they pay tribute and credit to the authors for their original source code.

- b) **Viral or copyleft licence.** - There are other licences which are made free by including a "viral" element. These are called **viral or copyleft licences**. A viral or copyleft licence states that if you distribute or build a software based on copyleft software, then you must disclose the proprietary source code and your software must also be free and available to the public.

E.g., **General Public licence (GPL)** This licence means that any software that is written based on any GPL component must itself be released as open-source. The result is that any software that uses any GPL open-source component is required to release to the public, free of charge, its full source code and all of the rights to modify and distribute the entire code.

Intellectual Property Law Challenges –

Open-source software publishers rely on intellectual property laws to maintain their chosen development model. 'Intellectual property' covers a number of different types of rights and protections, including patents, copyrights, and trade secrets, that provide software developers with proprietary interests in their creations. People have expressed concerns

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that if open-source software is used then it would defeat intellectual property rights that would exist otherwise.

Third party intellectual property infringement claims-

Open-source software licences

such as GPL prevent individuals from asserting intellectual property rights in the open-source software. One individual may have distributed software as open-source, even though another enterprise or individual may already have intellectual property rights in that software. Conflicts can arise between the owner of the intellectual property right and the individuals (the third parties) who believe that the software is open to the public. For example, A invents a new method of sorting data useful for computer programs. A then files a patent application claiming the method is novel. Later, a programmer named B independently writes a software program that uses the same data that A had claimed in his pending application. Unaware of A's patent application, B distributes his own software to the public under the GPL. If A's application for patent is approved, then A could assert claims of patent infringement against anyone using B's software. These users would be subject to legal liability, even though they believed the software to be open-source, and even though no one had knowledge of the patent infringement. The litigation between the SCO Group and IBM is the prime example for third party infringement claims.

There is an intersection where open-source software, intellectual property and antitrust laws potentially collide-

One of the goals of antitrust laws is to use marketplace rivalry to keep prices low for the benefit of the consumers. Antitrust law holds that artificially low prices of a commodity is unlawful in rare circumstances where the pricing is likely to harm competition and consumers in the long run. But, so far, an OSS platform agreeing to sell their licence free of charge has not been found to be actionable or unlawful under the antitrust laws.

Steps to manage OSS use in your business

- 1) **Adopt an OSS Policy** – when opting to use open-source software, the enterprise should outline a policy for its usage. This prevents any potential issues emerging down the line, as these issues can be costly and time consuming.
- 2) **Update Promptly**- whenever a bug in the open-source software is found, it should be fixed quickly. It is also important to ensure that all relevant updates are made to all applications that use the frameworks as in the basic source code of these projects.
- 3) **Ensuring Quality** – when opting to use open-source software, it is important to choose the right software for the project and not make the decision just based on what is familiar. Relying on familiar software does not guarantee quality. The software should be chosen on the basis of the requirement that it ensures all of the enterprise's demands can be met
- 4) **Forking** – The best feature of open-source software is that it allows the source code to be modified and customised as per the individual's needs. Forking enables the

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enterprise to track any changes made to the open-source software, as it will always have a link to the original software.

5) Using Tools – There should be continuous integration of automated tools such as Jenkins or SOAR that help to closely

monitor and control security vulnerabilities in the OSS. As cybersecurity is a growing concern, these tools help to track potential security flaws and fix them. These automated tools make the process faster more secure.

Impact of Your Business on the OSS community

Using open-source software gives developers a sense of giving back to the community. Neglecting this concept is a narrow-minded approach and also can be detrimental to the project itself. e.g., if there is a scenario in which someone on your team finds a bug in a piece of open-source software, and they quickly fix that bug in only your local copy without participating in the community. The more effective approach would be to submit a bug report or bug tracking software through open source and then submit your fix to the wider community.

This online publication was drafted by Anubha Gupta, an LLM student participating in qLegal, the pro bono commercial law clinic at the Centre for Commercial Law Studies, Queen Mary University of London.

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