

The Future of Open Source and Open Content – The Verdict of Experienced Users and Business People

Olle FINDAHL

*World Internet Institute, c/o Dep. of Information Technology, Uppsala University,
Box 337, S-75105, Uppsala, Sweden*
Tel: +46 70 332 22 52, E-mail: olle.findahl@wii.se

Abstract: What is the future of open source software and open and free content? Will the fast rising interest disappear or will it prevail and develop? What about trust and support? What about copyright and licenses? Will there be new successful business models even if the applications and the content are free? To answer these questions we have turned to more than one thousand experienced Internet users and business people. The verdict is clear: Open source software and websites with open content produced by the users themselves already are, and will be of great importance in the future. But there are some obstacles, like software patents and a lack of open standards, and there is a need of greater awareness and demands from the Internet users, from companies, organisations and governments. Ignorance is widespread and many prejudices prevail.

1. Introduction

The idea about an open and free Internet has been there since the beginning of Internet. From the start there were a few, but later the number increased to thousands of very skilled programmers who without payment committed themselves to write source code that they made accessible to others. Those in turn could use it, develop it further or correct bugs they discovered. The condition was that the source code was not to be exploited commercially but remain open and free. Something similar has happened with open content on Internet. During the last years millions of Internet users are engaged in producing content on community websites. What is the future for this open Internet with content and software that are available for free?

1.1 Open Source

The idea about open source and a collaborative way of working had a strong support among the pioneers, but as more and more people started to use computers, the potential market grew and the commercial interests became stronger. The applications became commodities that could be sold or licensed. That was good for the proprietary software industry, but expensive for the users. It was not so good for the innovation process as the closed development obstructed the competition and alternative solutions were kept away.

An obstacle is now that Microsoft has said that Linux and Open Source Software violate 235 of its software patents.[1] This threat to sue open source software users who violates Microsoft's patents could be hard on start-ups and small companies.[2] At the same time Microsoft has been found guilty of patent infringement in several cases and EU has imposed a large fine on Microsoft because its violation of the competition law.[3]

However, the development of open source applications has continued, with the help of tens of thousands of developers, and according to FLOSSWorld, a EU-funded project,

Open Source applications are among the first rang products in several ICT infrastructure systems. The market penetration is also high in most application domains and 70% of all open source software is now developed in Europe.[4] During the last years there are now competitive open source alternatives to many proprietary applications – like the Linux platform, the Apache server, the Firefox search engine, the MySQL database etc. [5] There are also applications, like Open office, for everyday use.

But according to an Info-Tech Research Group’s survey of 1900 IT professionals the open software-licensing model is only very slowly gaining acceptance.[6] And many are not even aware of the open source approach as an option. The reason is said to be a combination of two factors. The first one has to do with the technical nature of the benefits involved, which makes them difficult to communicate. The other has to do with the closed character of the open source communities, serving foremost the need of its members.[6]

The question is how ready are Open Source software for a wider distribution?[7] What does the business model look like? Are the applications user-friendly enough?[8] And what are the perceptions of potential users and how deep is their knowledge about open source software and the OSS system of licensing?

1.2 Open Content

Internet was for long a network where you could read and get information that someone had professional produced as part of his work. What has happened during the last years, rather unexpectedly, is that the users themselves produce the content on many popular websites. And even if there are many tens of thousands of committed programmers working with open source, there are many millions Internet users who are uploading content to be published online. Most popular are entertainment sites like YouTube for video, Flickr for pictures and MySpace for music and friends. The enormous number of visitors to these websites makes them very popular among advertisers and thus very profitable for the owners of these sites.

But the Internet users are not only producing free content for entertainment but also for knowledge. In a countless number of websites belonging to different communities the members are taking part, producing content, answering questions and contributing with their knowledge. And in some cases the collaborative environment has created the unexpected outcome of a encyclopaedia, that right up to now was seen as something where all rights belonged to academic experts.

The most well known websites are visited by a global audience. A more recent development is national and local websites for video and pictures around the world. These websites are not only an archive for content but also a place where people can meet.[9]

But how active are the internet users? Is there a small minority of active content producers and a majority that are only visiting community sites without participating? What do they know about rules and regulations applicable to open content?[10] A problem with these user driven websites is the fact that far from all of the content uploaded is produced by users themselves. And what about new business models when content is open and free?

2. The Objectives

What is the future for this open and free Internet with open source applications and open and free content? What do people know about it, and what are their expectations? Are they already engaged and taking part? Will the open source applications be user friendly enough? Will the fast rising interest from Internet users disappear or will it prevail and develop? And what is happening when a new technology changes the prerequisites of old business models and threatens the software and media industry? Will there be new successful business models even if the applications and the content will be free? What about trust and support?

What about copyright and royalty? Will software in the future be free and the proprietary applications disappear? Will it be impossible in the future to charge for content on Internet?

3. Method

To answer these questions we have turned to experienced Internet users and business people.[11] The aim was not to get a random sample representative of the Swedish Internet users, but to find people with long experience of Internet and good knowledge about open source and open content. 1176 persons from the Swedish association of Computer Professionals answered our web-based questionnaire, in May 2006, about their thoughts and knowledge of open source and open content.[12]

We succeeded to reach our target group as most of those who answered our questions started to use Internet long before the Internet boom in the middle of the 90ties. Most of them had also in one way or another been working with open source and all of them were members of different online communities and many had also contributed with content. We divided them into three groups: The Pioneers that started to use Internet already in the 80s.[13] The Innovators who came later in the beginning of the 90s and the early adopters in the middle of the 90s. Data from a representative sample of Swedes (2017 persons) has also been used as a general comparison. World Internet Institute gathered these data during January-February 2007.[14]

The outcome of the questionnaire was discussed in two workshops with experts from the open source field, who were either open source professionals or active in open source communities. To get some insights also of the open content field we interviewed promoters and developers from four recently technology start-ups companies developed around different ideas about online communities where the members are producing the content.[15]

4. Results

We will start with a general overview of the opinions of the experienced Internet users related to open content and open source. Proceed with comments and arguments from the very experienced users and end up with a discussion with people working daily in the field of open source and open content.

4.1 Open Source

Applications developed, as open source will have a great or a very great importance in the future. That is the verdict from the most experienced Internet users in Sweden. Only 5% say that OSS will be of minor importance.

	Pioneers	Innovators	Early Adopters
Extremely important	45%	31%	25%
Very important	30%	37%	35%

Table 1: The Future of Open Source Assessed by Very Experienced Internet Users

Among the answers were that, “Already today, important ICT systems are permeated with open source applications and open standards. Big companies and banks are very interested and no one will in the future pay expensive licenses. The quality is better and technological changes catch on much faster when it comes to open source.” Here are some of the motivations of the verdict:

There will be increasing demands for savings in the public sector and a need for new ICT solutions based on open source software.

*Big companies are in favour of open source. Banks are very interested.
Just look at routers, NAS-disks and other hardware that today is based on for example Linux which can make a product a really power package.
Open source and open standards are already today permeating all important ICT-systems*

Quality:

*The best open source frameworks are found in the Java world and I use them, not because they are free but they are the best to get hold of.
Everyone I know working with OSS say that the quality is much better than traditional proprietary alternatives.
It is frightening what waste, working with closed source is leading to that thousands projects are doing exact the same thing.
The collaborative way OSS is developed, what I call cooperative innovation, is the most important way to develop new things on the whole.*

Indirect effects:

*Even if OSS will not be so important as expected will the collaborative way of working influence traditional software companies.
Distributors and different standards will be influenced
The business model for software will be changed*

There are also obstacles for the development of open source. It has to do with software patents and open standards.

Problems:

*One threat is software patents. I hope this never will be a reality in Europe. Big distributors can use this to hinder the creativity of others, not to protect their own.
It is serious that sometimes a patent is accepted for format of communication and storage and common used technology and methods, like one click shopping
I consider it as absurd to patent a software algorithm as to patent a mathematic formula.
If only the company has finished to sue all and everything, there is a hope that OSS can be developed without a conflict with copyright law.
Sometimes small changes of no importance are used to prolong the protection time.
More important than OSS are open standards, for example Open Document*

But what about security and support? Those without much own experience of open source expressed these apprehensions:

*As long as the security aspects are not solved in a sufficient way the importance of OSS will be negligible.
Support and guaranties from a distributor are important, and therefore OSS will not be of importance.
It is hard to get support and to find competence that can maintain OSS systems and applications in a complex environment.
The increasing threat to security towards software and systems written in open source will make it less interesting to companies that take responsibility for their products.*

The answer, from those with more of direct experience, was that this fear now is part of history. Today many open source applications can be delivered with support and future updates. However, these services will not be for free but the cost will sum up to only a few percent of the proprietary licences of today. This is a part of the new business model of open source. Services will cost but applications are free. Some are however sceptical to the advantages for the consumers:

*OSS tends to be closed over time. Companies develop their own solutions with support/service included.
The OSS trend is obvious, but the costs will be the same.*

There are today so many different kinds of OSS that you will need, if you are not an expert, help and guidance to choose what will suit you or your company best. These services already exist. But there is an apprehension that many are not aware of these OSS alternatives or services and that there still is a long way to go for the mainstream user.

There is a need for more awareness, understanding and skill among the users.

But overall, as we have seen, there was a strong belief in the future of OSS among the experienced users. What is needed now, for the future success of open source, is to make the OSS alternatives more widely known and that there are services and support to get help from. There is also need of a stronger demand from the consumers and a clear statement from the state authorities, in favour of a change to open source platforms and applications. Open standards are necessary and software patents have to be avoided.

It is important not to forget the collaborative working process that is behind the development of OSS. Every service and distribution of OSS has to take care of the interests of the OSS community. Here we have to include, not only individuals, but also many companies with OSS interests that are investing resources in this process. Typically, of those who had in some way worked with the development of OSS (55% of our respondents), 15% answered they had done that at their spare time, 41% said at working time, and 45% said at both working and spare time.

4.2 Open Content

Open content, that today is everywhere on the Internet, is used by all. The more experience of Internet the more is the use. Except different kind of Wikies, most of the user-produced content belongs to different online communities developed around people's hobbies or special interests. Another kind of communities has developed around media content like user-produced music, pictures and video in combination with "networking", that is the possibility to meet new people and their friends.

One of three (37%) that answered our questionnaire had contributed with content. Among the innovators almost half of them. The Pioneers are most active but they are not so numerous that they can fill up the net. Not surprising is that two of three attach great importance to open content. Only 3,5% say that the importance of OC will be small.

	Pioneers	Innovators	Early Adopters
Extremely important	32%	40%	38%
Very important	33%	25%	23%

Table 2: The Future of Open Content Assessed by Very Experienced Internet Users

But there are also some problems with all these websites filled with open content. Credibility is the problem mentioned most.

Criticism of the sources is a problem. How do one know what is really true.

I feel that I am not sure of the correctness if there is no check before publication.

There are always individuals who want to make sabotage of open content.

Maybe there will be a backlash and we will be ready to pay for content that we know is true and correct.

Small communities can get problem as knowledge is needed to maintain open content.

But the openness can also increase the correctness of the content

The only way to get secure systems that are traceable.

Diversity. More people have the possibility to present their view.

A lot of positive effects of open content are mentioned

This is the only way to make something of the Net. A prerequisite for life.

Everyone can make his or her contribution. A brake of the several hundred years monopoly of publication.

This is the power of Internet and the information society do justice of itself.

The existence of this kind of popular international English language websites has inspired business people in other countries. National and even local versions of community websites have developed in many countries. Sometimes with content only produced by the members and sometimes with a mix also of games and professionally produced content.

A successful hobby website seems to be the start for many start-up websites. If and when the site becomes popular, there is a need of economical investments to satisfy the need of the growing number of community members. At his stage a more professional overtake becomes necessary and usually new owners are entering. Economy is a problem, as most community members do not want to pay for services. A basic membership is usually free, premium membership will cost a little. The priority in the first start-up phase is to gather as many members as possible. That will attract advertisers and that is essential as the main part of the economy is driven by advertisements. But at the same time the most important thing is to maintain the community. Without the members activities there will be no community. A delicate balance between profit of the owners and the wishes of the community members is here needed. That is the new open content business model.[15]

4.3 Copyright and Licences

Even if the source code and the open content are available for free there are regulations that has to be followed. These are necessary to give the open system credibility. The problem is that very few know anything about these different kinds of licenses. That holds even for the very experienced Internet users that we have asked about the classical open source license GNU/GPL (General Public License) also called “copy left”, and Creative Commons relevant for open content.

	Never heard of	Only heard of	Know roughly	Know very well	
GNU/GPL	30%	21%	31%	19%	100%
Creative Commons	59%	25%	11%	5%	100%

Table 3: Knowledge about GNU/GPL and Creative Commons Among Very Experienced Users

Somewhat surprising is the ignorance of what is regulating the use of open content. Something that most of the experienced users have not only used but also produced. However, experience matters and the majority of the pioneers, who themselves worked with OSS, have the knowledge about GPL, but very few of the early adopters.

	Pioneers	Innovators	Early adopters
Know well	36%	20%	7%
Have a hunch	26%	32%	26%
N	171	532	191

Table 4: Knowledge About GNU/GPL in Relation to Experience of Internet

What then about Copyright? Will copyright rules be an obstacle for the development of open source and open content? Most answer yes, but only 15% say that the problems are very great and 15% say that the problems are very small (here are many of the Pioneers). There is no difference between OSS and OC. Here are some of the comments:

Copyright will not be able to stop the development as the momentum is heavy and alternatives will be found.

Copyright law no, but patent law yes, as source code and content can be included.

Software patents are a problem. The software industry can use them to prevent the creativity of others instead of protect their own.

It is serious that patent sometimes is given to formats of communication and storage and to technology in common use and to trivial methods like “one click shopping”.

Copyright can also be seen as the prerequisite of open source and content:

Copyright is not an obstacle but a condition; with a right to what I have written myself can I choose to make it available for everyone.

But there are dangers:

There is a strong lobbying going on to make the distribution of open source illegal if you do not have lawyers and strong legal resources.

Commercial actors will of course use all means to stop competition from open source and content.

5. Conclusion

Software developed as open source in a collaborative way, and open content produced by the Internet users themselves will be of great importance in the future. That is the verdict of the most experienced Internet users in Sweden. The great majority of them started to use Internet long before it became more widely known. Three of four use open source software and more than half have experience themselves taking part in the development. They point out that all important ICT systems, already today, are permeated with open source software and open standards. Big enterprises, organisations and banks are very interested and in the future very few will pay for expensive licences. They also stress that the quality will be improved and technology changes will catch on much quicker if the development is based on open source collaboration.

Open content is today to be found online everywhere and used by most. The more experience with Internet the more use. The user-produced content is found at different kinds of organised wikies, but most widely produced and used at different community websites. Among the very experienced users nearly half of them say that they have contributed themselves with content. That is mostly happening at communities with relation to the organisations and networks they belong.

But there are also problems. What about user friendliness, support and security? If this is lacking, open source software will be of minor interest for many, even if it is free. And what about credibility and matter-of-factness of open content? There are many question marks among those who are not familiar with open source and open content. There is above all a lack of knowledge. What is lacking even among many experienced users is the knowledge about the different kind of licences that is regulating the use of both open source software and open content. There are still many widespread prejudices and misconceptions.

The question for the future is if this widely use of open source and open content among very experienced users will be imitated by the majority of Internet users? When it comes to open content, the answer is yes. The young generation is already engaged in using and producing open content. But contrary to the very experienced, their interest is more focused at communication and making contacts with others, than at hobbies and professional interests.[14] Most of these web sites are non-profit, but there are also a lot of successful business models, mostly based on advertisement, developed around these community sites.

Using open source software has up to now been complicated and required special skills. There are also doubts about support and sustainability. But these doubts are mostly expressed by people who have no experience with open source software of today. The enthusiastic open source people say that these problems are now history. There are already updates and support, but if you cannot manage it yourself, you will have to pay for that. There are so many daunting choices that new adopters need a consultant to help them sort through the best choices. That is the new open source business model.[15] The applications are free in principal, but the services around them are not. Software will be sold as services

under long-term subscription agreements.[16] But it is not a question of a lot of money from many, not even a lot of money from a few, but a small amount of money from many.

What is now needed to enforce the development and use of open source software are open standards and avoidance of software patents, as stated in answer to our questionnaire. The prognosis was not that all proprietary software would disappear but that they will coexist with much more of open source software, working under different licences.

What is also needed is much more information about OSS and OC so that prejudices and misunderstandings can be overcome. There is a need of stronger demand from consumers, organisations and companies to develop open source software in a more user friendly way. Governments and national and local authorities must take the lead and show the way, as in France where the national assembly and its members are adopting Linux.[17]

There also has to be more initiatives like the Non-profit Open Source Initiative (NOSI) that began 2001 to bridge the gap between the non-profit and open source communities.[18] Reliability and deployment issues have also to be improved before open source projects can make the crossover to wider mainstream acceptance. That is the aim of a project like "Quality in Open Source Software" (QualOSS) that wants to create methods to assess the quality of open source projects quantitatively, objectively and rapidly.[19]

References

- [1] Vaughan-Nichols, S. (2007). Microsoft vs. Open Source: Setting the Battle Lines. eWeek.com, May 14 2007.
- [2] Mullins, R. (2007). Microsoft's patent hard line hardest on start-ups. LinuxWorld.com. 05/14/07.
- [3] EU (2006). Commission decision of 12 July 2006. Case COMP/C-3/37.792 Microsoft
- [4] FLOSSworld. (2006). Study on the: Economic impact of open source software on innovation and the competitiveness of the Information and Communication Technologies (ICT) sector in the EU. MERIT. Nov. 2006.
- [5] LAMP, <http://opensource.org/>
- [6] Infotech (2007). Open Source Software: Not an Overnight Success Story. Info-Tech Trends Predictions. April 4, 2007.
- [7] Germain, J (2007). Is E-Commerce Ready for Open Source? LinuxInsider, 2 May 2007
- [8] Gittens, C. (2007). Open source is still fighting against fear. Computing Canada, March 16 2007, (33) No. 4
- [9] Findahl, O. (2006). Trends in downloading and filesharing of music. Deliverable 5. Stockholm: Musiclessons, KTH.
- [10] Hietanen H, Oksanen V & Välimäki M (2007). *Community created content. Law, business and policy*. Helsinki: Turre.
- [11] The data is collected for the Vinnova-supported project "Nya användarmöster – nya affärsmodeller" (New user participation – new business models). Eriksson, L-E., Findahl, O., Selg, H., & Wallis, R.
- [12] Findahl, O & Selg, H (2007). Öppen källkod och öppet innehåll. En undersökning av och med erfarna internetanvändare. (Open source and open content. A study of and with experienced Internet users). Stockholm: NamNam, KTH.
- [13] Hamngren, I & Odhnof, J (2003). *De byggde Internet i Sverige*. Stockholm: ISOC-SE.
- [14] Findahl, O. (2007). Internet and the Swedes 2007. World Internet Institute, Uppsala.
- [15] Selg, H & Findahl, O (2007). Nätgemenskap som affärsidé. Drivkrafter och framgångsfaktorer. (Community as a business idea. Driving forces and factors of success). Stockholm: NamNam, KTH
- [16] Välimäki, M. (2005). The rise of open source licensing. A challenge to the use of intellectual property in the software industry. Helsinki: Turre publishing.
- [17] Guillemin, C (2007). French Assembly picks Ubuntu PC Linux. BusinessWeek, March, 12, 2007
- [18] The Nonprofit Open Source Initiative (NOSI). <http://nosi.net/projects/primer>
- [19] <http://www.qualoss.org/>