

Evaluation and Valuation of Open Source Software Companies: A Venture Capitalist' Perspective

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Abstract

New business ideas are increasingly more knowledge intensive, driven in part by the application of ICT as an enabling technology across industrial sectors. As distinct from yesterday's industrial companies, today's knowledge intensive companies' value is not based on their real assets but on the contrary on their intangible assets like knowledge, networks, and the brand. In the case of Open Source Software (OSS) companies, the above is even truer; part of their business (and value) rely on Open Source (OS) communities where people contribute voluntarily their time and knowledge into projects

Venture capitalists evaluate their investment opportunities based on certain criteria. It is widely accepted that the three key investment decision criteria are:

- management team,
- market projections and
- product

In the nineties, it was argued that revenues and earnings were neither sufficient nor relevant ways of putting value to emerging e-businesses or 'dotcoms' which had no revenues and actually no existing mechanisms of extracting payments from customers. Still the basic dilemma remains; while the Venture Capitalist is looking to become a shareholder as cheaply as possible, the entrepreneur is of course trying to retain as much ownership as possible. This would not be an issue if there were a transparent, objective way of estimating the value of the venture. Unfortunately, there are many unknown factors affecting the present value of a start-up that have to be estimated, and, of course, objectivity is easily missed at this point.

Keywords

open source software, venture capital, valuation

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Introduction

In the traditional view, the evolution of a technology-based new company is seen through separate consecutive stages. Business is based on creating tangible real assets; and in the end the value of a company is based on real assets too. First the technology is developed, which is

followed by the setting up of the organization. Once the organization has reached sufficient scale, internationalization is started. Finally, the value of the company is estimated with potential venture investment or through realization either through an initial public offering (IPO) or trade sale.

However, due to the increased complexity of products and services, time-to-market tends to lengthen. In order to maintain sufficient resources until the company reaches profitability, external financing is needed. The time needed in turning a company's cash flow positive varies considerably. A long product development phase and slow market penetration prolong the period of negative cash flow. Simultaneous internationalization drains resources at an even higher rate. Since start-ups do not usually have collateral to secure bank loans, equity financing is the most evident form of financing. Venture capital funding is usually sought in order to get business development support in addition to plain financing.

New business ideas are increasingly more knowledge intensive, driven in part by the application of ICT as an enabling technology across industrial sectors. Also, the nature of business has changed: times-to-market are faster, the development stages are no more consecutive but can be simultaneous or even skipped, and companies are born global. As distinct from yesterday's industrial companies, today's knowledge intensive companies' value is not based on their real assets but on the contrary on their intangible assets like knowledge, networks, and brand. Needless to say, intangible assets are considerably more challenging to value than tangible assets. In the case of Open Source Software (OSS) companies, the above is even truer; part of their business (and value) rely on Open Source (OS) communities where people contribute voluntarily their time and knowledge into projects. Contributions are real but take place without formal contracts or incentive mechanisms and people can easily abandon the community.

Further, OSS companies that build their businesses on OS products – like, for example, Google and JotSpot – get huge savings in time and licensing fees; they get to market faster and cheaper. This sets even greater challenges for those valuating OSS companies. In theory, these free contributions should yield in higher valuations. On the other hand, the uncertainties involved should have the opposite effect.

Research mission strategy

Mission of this study is to compare traditional IT companies and their valuations and evaluation to those of OSS companies from the viewpoint of venture capitalist. This mission is further divided to several sub questions:

- What are the special issues to be taken into account when evaluating OSS companies?
- Do Venture Capitalists assign a positive, negative or no value to OSS companies and their communities when compared to traditional IT companies?
- Is there hype around OS?

Data for recent valuations of OSS and traditional IT companies were gathered from VentureOne database. VentureOne (www.ventureone.com) is one of the leading venture capital research firms offering information on the venture capital industry.

To better understand the investment decisions made and valuations paid for OS companies, and to get insights into what are the specialities in evaluation of OSS companies, two case studies were carried out. When designing the case study, based on the authors' initial understanding of the issues at hand, a pattern of interview questions was constructed. In addition to these semi-structured interviews, data was gathered from publicly available sources. The interviewees were key managers of the case companies. Both of the cases present seed/early stage venture capitalist that has been active in investing in OS companies. In addition, the case studies were backed up with several interviews with venture capitalists and entrepreneurs as well as with feedback gathered from Internet on-line communities. The questionnaire used in the interviews is presented as Attachment 1 and list of interviewees as Attachment 2.

Earlier research

Evaluation and valuation in theory

Venture capitalists evaluate their investment opportunities based on certain criteria. It is widely accepted that the three key investment decision criteria are:

- management team,
- market projections and
- product (Tyebjee & Bruno 1981, 1984; MacMillan, Siegel & Narasimha 1985).

In addition, venture capitalists have preferences – like venture's stage of development, it's location, it's industry or technology, and size of the investment required – that vary between one another (Seppä 2000). The above criteria and preferences are related to evaluation of an investment opportunity: does the venture have potential, is it worth our time and money, and does it fit our investment strategy. Venture capitalists base their evaluation on business plan, meetings with the entrepreneurial team, and various researches.

Only after positive result from evaluation, is time to think about value of the company. The process of valuation resembles business negotiation. Herein, "valuation means the process of placing a monetary value on an investment opportunity." Venture capital valuations are not as straightforward as public market valuations or share prices. "Because of the fluctuations in the supply and demand of venture capital, investment valuations are not always determined according to the rules of efficient markets." (Seppä 2003, 6, 11) Valuation can also refer to venture capital funds' periodic valuations of investments (The International Private Equity and Venture Capital Valuation Guidelines 2005).

Valuation of high-tech companies by Venture Capitalists has been theoretically studied extensively. The value of a new venture is derived by discounting predicted future cash flows to the present. The discounting factor depends on the probability of returns. Even if a company has significant potential future cash flows, the risk of failure decreases its net present value.

Different methodologies exist in the valuation but all aim at answering the same question: what is the present value of expected future earnings or exit value of a company? The methods fall into four categories:

- 1) Liquidation value asset based methods,
- 2) Discounted cash flow based methods,
- 3) Options based valuation methods, and
- 4) Rule of thumb valuation methods (comparator valuations) (Lockett, Wright, Sapienza & Pruthi 2002).

The concept of present value (PV) and net present value (NPV) form the basis for the valuation of real assets and investment decision making. Essentially, the method makes a comparison between the cost of an investment and the net present value of uncertain future cash flows generated by the venture. There are (at least) four major steps in a discounted cash flow for a proposed venture.

First, assuming that the venture is all equity financed (i.e. all the necessary capital is provided by the shareholders), forecasts are needed as to what the expected incremental cash flows would be to the shareholders if the venture were accepted.

Second, an appropriate discount rate should be established that reflects the time value and risk of the venture, and therefore can be used for the calculation of the present value of expected future cash flows. The concept of present value includes the notion of the opportunity cost of capital. The appropriate discount rate, or the cost of capital, must first of all compensate shareholders for the foregone return they could achieve on the capital market by investing in some risk-free assets. It has to also compensate them for the risk they are undertaking by investing in this project rather than in a risk-free financial asset. Thus the cost of capital is determined by the rate of return investors could expect from an alternative investment with a similar risk profile. Fortunately, the rich menu of traded financial assets provides venture fund managers with the opportunity to estimate the right price.

Third, based on the value additives of present values, the NPV of the venture is to be calculated. Once the cash flow forecasts are finalized and the appropriate discount rate is established, the calculation of the venture's NPV is a technical matter. All future cash flows need to be discounted to arrive at their present values, and by adding them up, together with the present value of the necessary capital outlay, the NPV of the venture is achieved.

Finally a decision has to be made whether to go ahead with the venture or not. As the company proceeds towards profitability, the likelihood of success grows, and the value of the company grows. Thus it can be argued that every step a company takes towards its goals increases its value.

Exit valuations of technology companies are dependent on the prevailing market situation. Because the presumed exit valuation is the most important measure when considering the value of a company at the last venture capital round before an IPO, it is obvious that exit valuations have significant effects on valuations at all investment rounds, although the effect diminishes towards the founding stage. Due to dramatic changes in exit valuations e.g. during 1999-2000, there has been wide variation in valuations at various venture capital rounds as well.

Hype and uncertainties vitiate the theory

Every now and then things get out of hands. In the nineties it was argued that revenues and earnings were neither sufficient nor relevant ways of putting value to emerging e-businesses or 'dotcoms' which had no revenues and actually no existing mechanisms of extracting payments from customers. What was proposed was a way of assigning value to a member in a web-community so called 'life-time value of a customer' or 'a price-to-eyeball multiple' meaning that companies estimated how much on the average a customer would end up paying to a company (Valliere & Peterson 2004).

Emerging Open Source companies face a similar challenge as part of their business (and value) rely on Open Source communities where people contribute voluntarily their time and knowledge into projects. Contributions are real but take place without formal contracts or incentive mechanisms and people can easily abandon the community. The question rises, how one should value community contributions like these? The International Private Equity and Venture Capital Valuation Guidelines (2005) provide no aid on this. On the other hand, venture capitalists certainly have some views as there already are several cases where they have invested in Open Source companies.

Every VC investment is difficult to value thanks to the high degree of uncertainty in the performance. The valuation of OS companies is even more challenging, as there is yet neither history nor guidelines, due to the uncertainties for example in:

- profitability of business model
- revenue streams
- market acceptance
- community commitment
- competitive reactions
- quality of software
- new GPL in 2006

The list includes similar uncertainties that were involved during the dot-com bubble (Valliere & Peterson 2004, 13-14). And, indeed, one can see the signs of hype in OS as well. Signs of hype around certain companies (company hype), around the OS market (market hype), and around activity of other investors as a group (investor hype) (cf. Valliere & Peterson 2004, 12): OS is getting increasing attention in press and venture capitalists are announcing OS strategies. However, no signs of hype can be seen in the valuations of OS companies.

Evaluation and valuation in practice

Done deals and given valuations

So far the OS experience has not been a happy one for venture capitalists. According to research firm VentureOne, some \$714 million was invested in 71 Open Source companies in 1999-2000, and most of those projects collapsed (VentureOne website).

One of the biggest successes that are left of those experiences is RedHat, which went public in 1999 and makes money by selling enhancements and maintenance services to corporations

using Linux open-source operating system. However, that is relatively mild success as it still has some ways to go before reaching \$200 million in revenues (RedHat website). So this is certainly no Google or EBay that aggressive venture capitalists often use as a reference as companies they want to fund as the 'Next Big Thing'.

The biggest success so far with Open Source ventures as they have been traditionally viewed has been IBM's Linux service business that the company has grown as a separate Emerging Business Opportunity unit and has managed to grow it from \$0 to more than \$2 billion in revenues in just 5 years. Still, there is no record as to how much IBM has invested in this venture to realize that growth (IBM website).

Several studies have pointed out that e.g. Linux, Apache and MySQL have reached the maturity where the technology or code is comparable or even superior to the existing proprietary ones. Further, for example Firefox has managed to take the market by storm extremely quickly without any significant marketing budget. In other words, early evidence seems to point that Open Source approach is in at least some cases an efficient way to develop technology and to take that to market. However, at least the experiences from the first round of financings of Open Source companies show that it is not necessarily the best way to do business.

It might be that at the end biggest successes to financing community come from and to companies that are not really Open Source companies as such, but rather use Open Source components to build new businesses, such as Google that like most web companies has been built on top of Open Source. From \$1 million initial seed capital in 1998 and an injection of \$25 million growth capital in 1999, the company realized the value to its investors in 2004 by going public and by spring 2005 had surpassed the Finnish pride Nokia with more than \$80 billion in market capitalization as compared to that of just below \$80 billion of Nokia's (Google website).

After few years of trying to figure out whether money can be made by Open Source companies, the answer from venture capitalists seem to be again a reluctant yes. 20 Open Source businesses raised \$149 million in venture money in 2004 in United States alone (VentureOne). There are no numbers available for the rest of the world, but at least in Europe several investments took place. Looking at that total it would seem that most of the investments are still on seed or first round level (comparing to average level on various rounds of realized investments) as if distributed evenly among companies the amount would be \$7.45 million. In other words, the first bets to the potential future successes have just been made and how successful those will be can only be known in the coming years.

The process of evaluating an OS investment opportunity: case BlueRun Ventures

BlueRun Ventures was originally launched as Nokia Venture Partners in 1998 with \$150 million initial invested capital from Nokia Corporation. Even with money from Nokia, it was designed right from the start to act independently from its only investor. It raised a second fund of \$500 million in 2000, which then already included other investors besides Nokia, such as Goldman Sachs.

In 2005, Nokia Venture Partners raised its third fund of \$350 million and changed its name to BlueRun Ventures. Today, BlueRun Ventures has offices in 9 locations globally and manages \$1 billion making investments into IT, mobile and consumer technologies at seed- and early-stage level.

In looking at OS investment opportunities, the key issue identified by BlueRun Ventures is a strong community close to the company. In their view, open source is a transformation force which is forcing a unit price down, and an only realistic counterforce to big incumbent companies such as Oracle or BEA systems.

Still, they consider the market being at an early stage of deployment as after the bubble there have been no notable Initial Public Offerings by open source companies. From the investment point of view, they consider two uncertainties in open source: the size of the market and the fragile business attachment of dealing with a community.

BlueRun Ventures has quite a bit of experience dealing with open source companies as they have looked at about 100 companies in the last four years. They have just completed their first investment in this space, but it is not public information yet as to which company.

Seed- and early-stage investments are tricky, as there typically is no, or very little historical numbers to look at. As Mr. Kokkinen noted, it really is not a science, rather the questions are: 'Do I like this opportunity? How much money is needed to make it happen and does that fit with the funds strategy?' After that, the actual valuation is really based on negotiations, which rely more on people skills than anything else.

From BlueRun Ventures' perspective, in the long run the valuations should be the same for both traditional and open source start-ups, but the nature of seed-investments is different as the communities have in a way taken care of development that is typically done with seed money, resulting in a technology, but not in protected intellectual property rights (IPR).

As the market is still developing, BlueRun Ventures has not been able to identify any open source dedicated venture funds, even though they expect several of those to be formed, maybe even in 2006 if we see 4-5 Initial Public Offerings. That would give enough evidence to the managers of funds to go to their investors and propose an open source fund. (BlueRun Ventures, Antti Kokkinen 2005)

Case Nexit Ventures

Nexit Ventures is a Finnish based traditional venture capital company. It raised its first (and currently only) fund in 2000. The fund was initially Euro 100 million, but was later reduced to Euro 66.3 million. The investors are private institutions with 50% of the commitments from outside of Finland.

The initial focus was seed- and early-stage companies both in the Nordics and North America, later this has been modified to early- and later-stage companies in the same geographical regions. The technology focus of mobile and wireless communication, from core components and enabling middleware to applications and services has remained the same.

Nexit Ventures does not consider a pure open source company to be a viable investment opportunity. Rather it sees open source approach of collaborative effort to solve various issues to be an enabler for various things of potentially great value.

As one example Apple's iPod was mentioned that makes it easy for consumers to utilize music downloaded from web, whether the music itself is from legit sources or not. Still the view was that the closer one goes to the core of open source (the community), the harder it comes to make money. Nexit Ventures considers open source be at every level of deployment from early adoption to mature, it just is not very visible always, and uncertainties lie on the legal side.

From Nexit Ventures point of view, in Finland we are somewhat isolated as to what is taking place globally (a bit paradoxical as most things are said to be taking place on the Internet), and we have not yet seen a rise of open source based businesses, often referred as Web 2.0 companies. Even discussion on public media has still been very little, especially compared to the United States.

In the United States, the valuations are very high again, and according to Nexit Venture, the due diligence in follow-up rounds is quite weak, as there is pressure to do hard sought deals.

Still, looking at opportunities and valuating them, Nexit Venture's comments reflect those of BlueRun Venture's. The markets for venture capital investments are imperfect, and always will be. Therefore, the valuations are not made with transparent scientific methods, but are rather results of negotiations.

In other words, it can be argued, that the potential of one's business idea gets one into the negotiations (with the venture capitalist), but the valuation, that will take place with the investment, is determined by one's skills as a negotiator, that are impossible to quantify or to break down into a scientific model. (Nexit Ventures, Tarjanne 2005)

Discussion and conclusions

Venture capitalists do not seem to put special value to OS companies. Still, at least some of them recognize that there are distinctly different elements in evaluating OS companies: Expected cash flows are likely to be bigger than in similar traditional software companies thanks to the savings for example in licensing fees. However, at the same time, the uncertainties in OS increase the discount rate (see Figure 1).

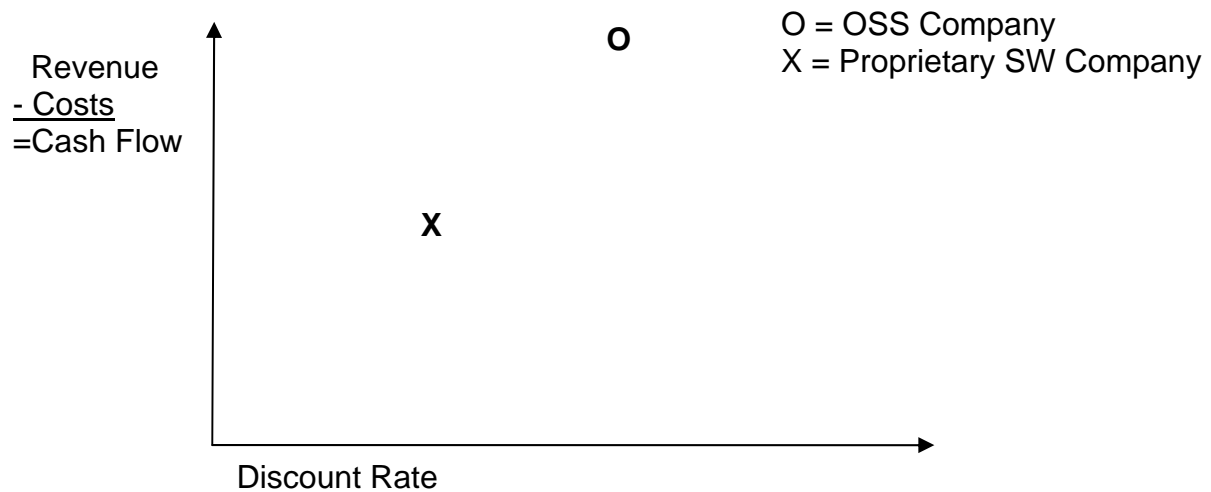


Figure 1. Cash flow and risk of open-source software vs. proprietary software company (Cardwell 2005)

However, in the academic world, more complex approaches have been taken in valuing a company. It might be appropriate to ask whether the academics are really serving the industries, if these methodologies are not really used by the people in the venture capital industry. In interviewing the selected experts and looking at the selected cases, it seems that rather than putting effort in further understanding valuation methodologies, at least the entrepreneurs should seek help in learning better negotiation skills.

The good news for the entrepreneurs looking to launch their new Open Source Venture is that money is available; investors are making their bets again in Open Source. Still, the basic dilemma remains; while the Venture Capitalist is looking to become a shareholder as cheaply as possible, the entrepreneur is of course trying to retain as much ownership as possible. This would not be an issue if there were a transparent, objective way of estimating the value of the venture. However, as one person interviewed said, this is not likely to happen as the venture capital market is imperfect. Unfortunately, there are many unknown factors affecting the present value of a start-up that have to be estimated, and of course objectivity is easily missed at this point.

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Attachment 1. Interview Questionnaire

VALUATION OF OSS COMPANIES

Name: _____

Date: _____

1. BACKGROUND

- Current profession?
- Personal background?
- Sectors of expertise?

2. OS BACKGROUD

- What do you consider to be an OSS company (Redhat? Google? MySQL?)?
- How do you see the role and impact of OS in IT industry?
- What is the current adoption (diffusion) rate of OS (innovators, early adaptors, early majority, late majority, laggards)?
- Do you see any uncertainty factors in OSS? What?

3. OS INVESTING

- When did you first start noticing OSS companies?
 - How many OSS companies have you screened during the past 2 years?
- Are you proactive in searching OSS investment opportunities?
- What are the challenges in making valuations in general?
 - Are there special challenges in valuing OSS companies?
 - How transparent is your valuation methodology to the investee company?
- What methods you use in valuation?
 - Are there specialities in valuation of OSS companies?
- Should the valuation of OSS companies differ from that of proprietary companies? How?
- How do you put value to the OS communities?
- Do you use different discount rates for OSS companies as compared to traditional SW companies?

3. HYPE

- How closely do you watch other (OS) investors?
- What are the key external factors influencing the shifts in investment focus?
- Has press influenced your thinking about OSS?
- How easily investors are influenced by hype?
- Do you think there is hype around OS?

4. CONCLUSION

- How do you see the future of OS?
- Other comments?

Attachment 2. Interviewees

William Cardwell, CEO, Valimo Wireless Oy, 15.9.2005

Antti Kokkinen, Partner, BlueRun Ventures, 14.11.2005

Vesa Sadeharju, Director, 3i, 20.9.2005

Artturi Tarjanne, General Partner, Nexit Ventures, 30.11.2005