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The editorial theme for this issue of the OSBR is Growing Business. Authors from academia and industry share their research and experiences on how to grow a successful business in a world that is increasingly embracing open source. They provide growth strategies that leverage the advantages of open source, and blueprints for company activities that lead to growth in revenue. The issue provides lessons on how to leverage an open source product as the keystone of a company; how to engage an open source community to support a company's growth; selecting a growth strategy that is best depending on the company's core business; and, the challenges that startups face as they start to grow.

As always, we encourage readers to share articles of interest with their colleagues, and to provide their comments either online or directly to the authors.

The editorial theme for the upcoming July issue of the OSBR is Go to Market and the guest editor will be Corien Kershey. Submissions are due by June 20--contact the Editor if you are interested in a submission.

Dru Lavigne

Editor-in-Chief

Dru Lavigne is a technical writer and IT consultant who has been active with open source communities since the mid-1990s. She writes regularly for BSD Magazine and is the author of the books BSD Hacks, The Best of FreeBSD Basics, and the Definitive Guide to PC-BSD.

Growth is important for any business, especially technology companies that operate in an environment of constant innovation, advancement, and evolving consumer needs. It is essential to maintain long term profitability, develop a brand, and attract new investment. But the path to successful growth is not obvious, and is filled with hurdles. Growth requires capital, making consistent revenue a necessity. But figuring out the smartest way to invest capital to promote growth can be a daunting task. Growth can also require some experimentation with different stategies, weathering the occasional failure along the way, in order to find one that is the right fit for the company. But where do you start?

Book stores have hundreds of books on business growth, with many promising a surefire strategy for success. But the reality is that there is no single growth formula that works for all businesses. Entrepreneurs must understand what drives their business--something that might be very different from other, similar businesses--and leverage this knowledge in order to grow. Growth requires focus, and energy must be directed on one particular aspect at a time, such as revenue growth, market growth, product line growth, or even shareholder growth. Trying to extend in all directions at once is a sure path to failure. Disciplined, incremental, consistent growth is the formula for success, no matter how that success is defined by the business.

Tony Bailetti, Director of Ontario's Talent First Network, discusses a novel strategy for growing the revenue of technology companies and startups through active participation in a business ecosystem. He introduces a blueprint to grow revenue, an inventory of growth formulas, and briefly defines business ecosystems, keystones and platforms. He then describes the business ecosystem approach to grow revenue, comparing it to traditional approaches and identifying when the business ecosystem approach works better, as well as the benefits and risks of implementing the business ecosystem approach. He highlights the differences between business ecosystems and development communities and outsourcing.

Mekki MacAulay, Principal of OSStrategy.org, outlines seven strategies that use open source to grow revenue and provides examples of successful implementations for each.

Tomas Marko, a researcher for Lead to Win, describes the challenges that entrepreneurs in startup companies must overcome in order to grow successfully. He examines both the risks and benefits of growth as well as the importance of short and long term strategic planning.

Ram Mohan, Executive Vice President and Chief Technology Officer at Afilias, tells the story behind Afilias' continuous growth and the open source product and community that were leveraged to support it. His article also examines the importance of partnering with and actively contributing to an open source project to support the growth of both the project and the company.

Tarus Balog, CEO of The OpenNMS Group, answers a question frequently asked of open source proponents: namely, how to make money with open source. He describes the successful model used by the OpenNMS Group to generate sustainable revenue for growth, while focusing on open source.

Mekki MacAulay

Guest Editor

Mekki MacAulay is the Principal of OSStrategy.org, a consulting firm that helps companies improve their competitive advantage and strategic positioning in a world embracing open source. Mekki is also the president and founder of MekTek Solutions, an IT services company based in Ottawa, ON. Mekki holds undergraduate degrees from Carleton University in Computer Systems Engineering, and Psychology, and a Master's degree in Technology Innovation Management. His research interests focus on open source adoption; open source ecosystem value creation, extraction, and keystone company positioning; and quantifying the value of passive participation in open source projects.

BLUEPRINT AND APPROACH TO GROW REVENUE

"Revenue is all you need."

Pat DiPietro,
VenGrowth Capital Partners Inc.

This article examines a new approach to grow the revenue of small technology companies and technology startups. We name this new approach the business ecosystem approach.

The blueprint, growth formulas, and business ecosystem approach examined in this article are being developed by the faculty and graduate students at Carleton University's Technology Innovation Management program (http://carleton.ca/tim).

The goal of the business ecosystem approach is to help:

- small technology companies grow their revenue with the same discipline that they use to control their costs
- economic development organizations create an environment that attracts and retains technology jobs and investment in Canada's Capital Region
- develop the skills graduate students require to contribute to the new knowledge economy

The article is organized into five sections. The first section provides a blueprint to grow revenue and an inventory of growth formulas that top management teams of small technology companies and founders of startups find useful. The second section briefly defines business ecosystems, keystones and platforms. The third section describes the business ecosystem approach to grow the revenue of small technology companies and technology startups. It compares the traditional and business ecosystem approaches to growing revenue; identifies when the business ecosystem approach works better than the traditional approach; explains what small companies and startups need to do to grow revenue using the business ecosystem approach; and describes the benefits and risks of implementing the business ecosystem approach. The fourth section compares three approaches to growing revenue and highlights the differences between i) business ecosystems and development communities and ii) the business ecosystem approach and outsourcing. The fifth section identifies the key decisions a small technology company or technology startup needs to make to become the keystone that anchors a business ecosystem.

Blueprint to Grow

Figure 1 provides a blueprint of the actions needed to grow company revenue.

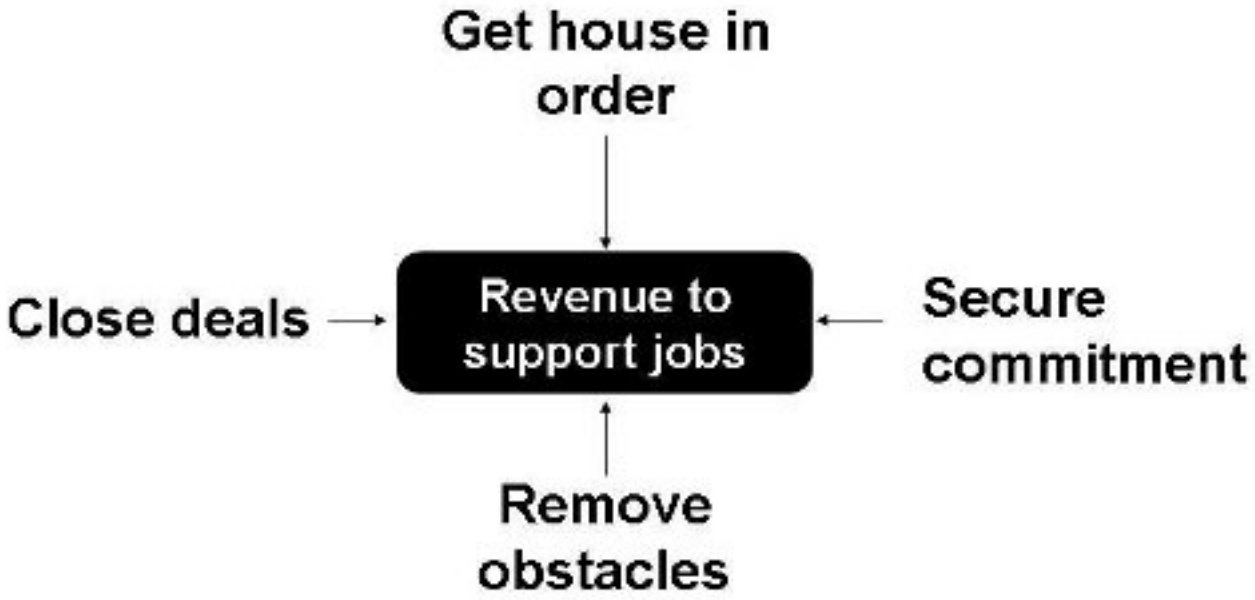
To get the house in order, the top management team of a small technology company or the founders of a startup must first:

- raise the bar for performance
- divest what adds no value
- put legal, cash, intellectual property and personal affairs in order
- act based on facts

To secure stakeholders' commitment, the company needs to:

- create mind share around their products or services and the unique reason "why" the company does what it does
- align with those who share their view of the broader market opportunity and flawlessly execute the plan that creates value from that alignment
- simplify its products, services and solutions to make them hassle free for customers and channel partners

Figure 1: Blueprint to Grow Revenue



- continuously improve its operations

To close deals, the company has to:

- articulate and deliver what matters to customers and channel partners so they can in turn deliver their wins
- develop differentiators for which customers are willing to pay
- select the right competitors
- quickly incorporate customers' changes into their market offers

To remove obstacles, the top management team of a small technology company needs to address four critical impediments to growth: i) lack of funding; ii) lack of skills; iii) lack of time; and iv) lack of access to customers and channel partners.

Growth Formulas

A growth formula is any behaviour that makes a company money and is lodged in the company's experience. It provides a focus that ties and aligns internal and external individuals. A growth formula makes it easier for company employees to make decisions, provides strategic clarity, reduces complexity, increases learning and makes new employees productive faster. In the early stages of a technology company, the growth formula is particularly important for choices about how to grow revenue in a systematic fashion.

Small companies that are part of the same business ecosystems may use various growth formulas. However, the growth formulas that small technology companies use are different from those used by larger, more established companies. A small technology company or a technology startup should identify and execute an appropriate growth formula. Common growth formulas used by small technology companies include:

- help strong customers grow their business
- bring innovation to market that is a complementary offer to a stronger player's offer
- apply good technology developed by others to novel market opportunities
- sell services to a market niche first and then develop and sell products or solutions

- demonstrate that an offer works, sell to first customers, and identify the profitable business model that achieves the price first customers are willing to pay

- demonstrate that offers provide value to users, economic benefits to customers, and can be delivered at a profit

- make competition irrelevant by concurrently delivering twice the value at half the cost

- sell to a specific narrow niche, cross-sell markets, then fill higher order needs

- sell to customers in mature markets abandoned by incumbents

- fill gaps that occur when customers must migrate from an old to a new system or technology

- resell services in geographies that are too expensive for other service providers

Business Ecosystems, Keystones, Member Classes, and Platforms

A business ecosystem is a community of companies, organizations and individuals that:

- share a desire for achieving high-impact, system-level results

- deliver benefit to their customers, partners and community members from their interactions using a multi-sided platform

- contribute to maintaining the health of their community

A keystone is the community member that owns, operates, and evolves the platform. The two main responsibilities of the keystone are to increase the: i) volume of transactions among members; and ii) efficiency of new product creation.

To fulfill its two key responsibilities, the keystone:

- provides vision, leadership, and governance

- defines the member classes and the price structure for membership in each class

- sets the prices for transactions among members

- maintains the ecosystem's health via knowledge transfer, market outreach, and other activities

- recruits members, builds audience and extends reach

- sets the intellectual property regime

- provides information members value but can't find on their own

- creates new spaces in the ecosystem where self organizing action groups can perform distinct functions that address needs and add value to the overall ecosystem

Community members can be organized into member classes based on the value they derive from the platform. For example, a three-sided platform can anchor a community comprised of three member classes: job seekers, job providers and advertisers. Each side of the platform delivers value to a specific member class.

The platform is a product, process, location, service or technology that delivers value to two or more member classes. It anchors the ecosystem. The platform is more than a focal point, such as a technology standard, in that it increases a member's access to members in the other classes and reduces search and transaction costs for all members.

The value of the platform to a member increases with the number of members in the other classes. For example, the value of the platform to a job seeker increases in proportion to the number of job providers and advertisers.

Business Ecosystem Approach

We argue that the actions required to grow a company's revenue and to implement growth formulas can greatly benefit from embracing the business ecosystem approach.

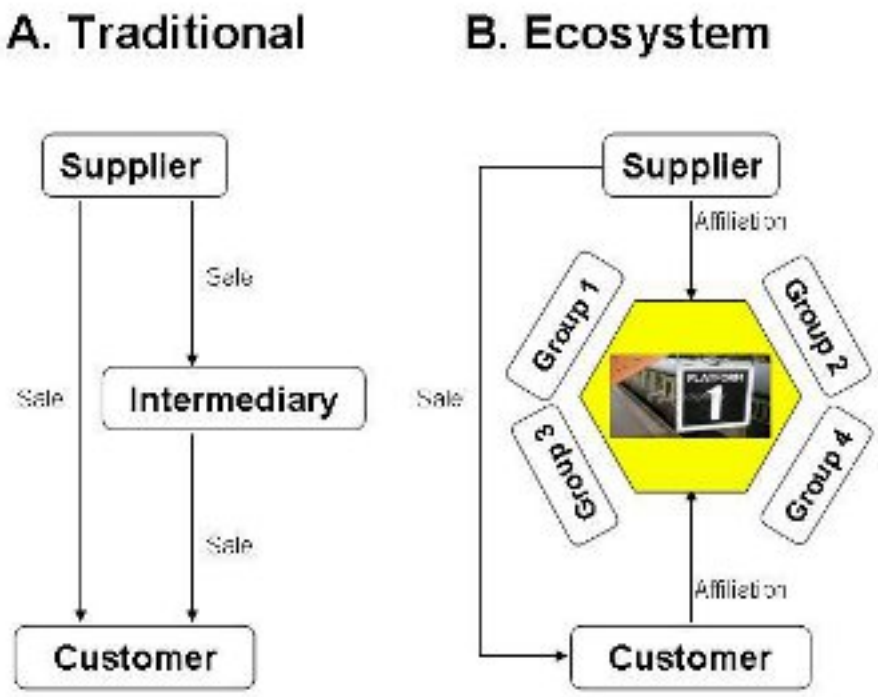
Figure 2 illustrates the difference between the traditional approach and the business ecosystem approach to grow revenue. The traditional approach entails pushing the products, services and solutions developed by a supplier to customers either directly or through intermediaries. The direct sale is analogous to a suitor endlessly knocking at doors and asking "Here is my customer value proposition, will you marry me?"

The sale via intermediaries is analogous to the same suitor paying friends to knock at more doors on the suitor's behalf.

In the ecosystem approach, the supplier uses a multi-sided platform to interact with customers and members of different groups such as complementors, investors, and community leaders to develop and market its offers. The platform, shown as a hexagon in Figure 2, acts like a magnet that attracts the organizations a small company needs to develop and market its products. It is analogous to the young suitor attending a large and never ending party organized for the sole purpose of finding a suitable mate. The party is attended by others wishing to marry, bankers, home and car sellers, magistrates who can solemnize marriages, and so on.

There are five key takeways from this model. First, in the traditional approach the supplier needs to first develop a polished product or service to sell.

Figure 2: Traditional vs. Business Ecosystem Approaches to Grow Revenue



In contrast, in the business ecosystem approach the supplier can introduce "good enough" products or services and then polish them by interacting with a large number of members of many different groups.

Second, in the traditional approach the supplier focuses on delivering compelling value to members of a single group: its target customers. In the business ecosystem approach the supplier delivers compelling value to members of different groups: its customers and all the organizations that help develop the product and bring it to market.

Third, in the traditional approach the supplier desires to attain company-level results such as sales targets. In the business ecosystem approach the supplier desires to achieve company- and community-level results. The supplier in an ecosystem shares with others the desire to achieve high-impact, system-level results.

Fourth, in the traditional approach the supplier is interested in maintaining its own company's health. In the business ecosystem approach the supplier is also interested in maintaining the health of the community anchored around the platform because it relies on this community to develop and market its products.

Fifth, the traditional model emphasizes development of a polished product followed by the transfer of what has been developed to the market. The business ecosystem approach focuses more on adoption than development.

In many respects, this can be seen as an agile approach to business creation. Small technology companies operating within an ecosystem deliver rapidly and incrementally using their particular growth formula.

When this Approach Works Best

The success of a business ecosystem approach depends on whether a company can generate more sustainable revenue as a member of the ecosystem than without such membership. The business ecosystem approach is a more effective way to grow a small technology company's revenue when the market life of the product or service is short, the demand is uncertain, barriers to entry are low, the cost of volume production is low, and the competition is global. The business ecosystem approach is also effective when the supplier needs to:

- reduce time to cash
- invest to improve product quality
- develop a strong brand
- access experts and specialized assets worldwide

Products introduced by a company levering a business ecosystem compete with products of companies that:

- use the traditional approach to grow revenue
- lever the same business ecosystem
- lever different ecosystems

The business ecosystem approach to grow revenue requires that the small technology company interact with a large number of members in different parts of the total value chain using the keystone's platform in order to:

- lever resources, talent and learning from other organizations
- deliver value to all the organizations that influence the development and sale of its market offers

- strengthen the product differentiators for which customers pay
- co-create solutions, products and services
- link to other business ecosystems

The company also needs to contribute to achieving the community's desired outcomes as well as compete for leadership positions at the governance, niche, and project levels.

A growth-seeking technology company can use the business ecosystem approach to offset its small size. Low cost company interactions with a greater number and more diverse set of customers, complementors, solutions providers, and suppliers results in:

- a greater number of options to grow
- more sustainable revenue streams
- stronger product differentiation
- greater visibility of early changes in economic conditions, customer tastes, and competitors
- greater learning from others
- greater access to shared infrastructures, specialized skills, resources, talent, supply chains and partnerships worldwide
- higher quality feedback on company's operations
- lower development and marketing costs
- a greater ability to fill capability gaps

Contributions to achieving the community's desired outcomes results in greater company alignment with the actions of strong leaders in the community.

Leadership positions in the community results in a stronger brand and the ability to influence organizations upon which the company depends for the development and marketing of its offers.

Risks

A small technology company that uses a platform owned by another company is exposed to three major risks. First, the platform owner may:

- increase the price of platform affiliation and/or price of transaction
- act to vertically integrate the small company into its own business
- weaken the small technology company's relationships with customers
- appropriate a significant percentage of the value the small company helped to create

The second risk of using a platform operated by others is that stronger companies may become members of the ecosystem and choose to compete directly with the small technology company.

The third risk occurs when the company does not derive sufficient benefits from being a member of the platform to justify the costs associated with membership.

Making Comparisons

To grow revenue, a company can choose among three general approaches:

1. Operate in the traditional, standalone mode.

2. Be a player in somebody else's multi-sided platform.

3. Operate and evolve a multi-sided platform on its own or with others.

Table 1: Comparing Three Approaches to Grow Revenue

Dimension	Standalone	Others' platform	Own platform
1. Go-to-market:	Direct sales, intermediaries	Platform	Conferences, catalogs, competitions, stores, demos, showcases
2. Deliver value to:	1-side (customers)	Organizations that influence development and sales of company's market offers	N-sides
3. Entry strategy:	Raise money to develop hard product, then sell to target market, and then expand	Lever resources of large number of diverse players worldwide to first introduce good-enough product and then increase its quality	Solve chicken and egg problem regarding price for side affiliation
4. Top management team's focus:	Internal hierarchy and control over transactions to develop and sell	Supportive relationships and collective health of organizations that influence development and sale	Health of ecosystem
5. Target:	Players who agree with what we do	Players who agree with why we do what we do	Players who agree with why we do what we do
6. Outcomes linked to:	Internal workings and go-to-market tactics	System-level results of ecosystem anchored on others' platform	System-level results of ecosystem anchored on company's platform
7. Target:	Customers who agree with what company does	Players who agree with why company does what it does	Players who agree with why system changes are desirable
8. Plans to:	Make profits from revenue	Lever ecosystem's resource to profitably grow	Deliver system changes and profitable revenue

Approaches 2 and 3 entail the use of business ecosystems. Other approaches can combine these three general approaches, such as simultaneously being a player in somebody else's multi-sided platform while operating another platform.

Table 1 compares the three approaches to growing revenue in terms of eight dimensions.

A development community is not a business ecosystem, regardless of how active the development community is. A business ecosystem is much more than a development community that fosters wider use of, understaning of, or access to technology. In contrast, a business ecosystem provides a company access to cash and leadership as well as supporting a company in achieving a wide range of business goals. A business ecosystem rewards performance of multi-company collaboration, not developer collaboration.

The business ecosystem approach to growing revenue is not about outsourcing, regardless of how many resources a company levers from the external environment. The business ecosystem approach is more about growing sustainable revenue than reducing costs, which is the main purpose of outsourcing. The focus of the business ecosystem approach is to create new things that deliver value to customers and to all the organizations that contribute to the company's development and marketing initiatives. The focus of outsourcing is to produce existing products at lower costs. The business ecosystem approach requires that a company access skills dispersed globally and attract organizations to share its development, commerialization and marketing risks. Outsourcing requires the company to procure commodity assets.

The business ecosystem approach helps a company build capabilities to differentiate offers for which customers pay, while outsourcing helps the company avoid investing in capabilities for which customers will not pay.

Platform Ownership

A company that wishes to own, operate and evolve a multi-sided platform needs to know the: i) main functions of the platform; ii) key design dimensions; and iii) benefits and risks of platform ownership.

As mentioned previously, the two main functions of the keystone are to increase the: i) volume of transactions among members; and ii) efficiency of new product creation. Seven design dimensions are used to deliver the two main functions of the platform:

1. Community outcomes: the desired high-impact, system-level results that motivate players to affiliate with the platform and will be used to brand the ecosystem.

2. Health metrics: the indicators, endpoints, and parameters that will be used to assess the platform's ability to maintain its function and structure.

3. Number of member classes: represents the number of sides that the platform should have.

4. Number of members for each class: refers to the maximum number of members in each class. This decision affects the intensity of competition for each member class.

5. Platform type: the product, process, location, service or technology selected to deliver benefits to the members of the different classes.

6. Price structure: prices paid by members to affiliate with the platform and transact with other members.

7. Governance: the system used to control the operations and evolution of the platform. It includes the number of directors that should represent each member class in the Board of Directors of the keystone. The main benefits of owning, operating and evolving a platform are: i) greater profitable revenue; ii) superior information; and iii) greater market power.

The main risks of owning a platform are four. First, there is a risk to the platform owner that organizations develop a way to benefit from interacting with each other without paying to become members of the platform. If organizations do not pay to be affiliated with the platform, the revenue to the company that owns the platform will decrease. The second risk is that revenues from platform affiliation and members transactions do not cover operating costs. The third risk is that the platform fails to scale its operations and it can't grow fast enough to meet demand. The fourth risk is that a superior keystone becomes a direct competitor.

Conclusion

This article adds a new approach to grow revenue that is useful to small technology companies and technology startups. Capability to generate revenue is important to both companies and regional economic development organizations because it secures well paying jobs. Business ecosystems can accelerate revenue growth only if the company has a solid base to grow on. The blueprint shown in Figure 1 and the inventory of growth formulas provide this base.

Tony Bailetti is an Associate Professor in both the Department of Systems and Computer Engineering and the Eric Sprott School of Business at Carleton University, Ottawa, Canada. His research and teaching support Carleton's Technology Innovation Management program. Professor Bailetti is the Director of Ontario's Talent First Network and the Executive Director of Coral CEA.

"The rules of the game are continually changing. It's no wonder that participants are now particularly receptive to the siren song: 'Discard the old, leave your historic core business behind and set out for the promised land'. Sometimes this advice leads to the right course, yet usually it does not solve the fundamental problem and can even aggravate the underlying cause of inadequate profitable growth. The key to unlocking hidden sources of growth and profits is not to abandon the core business, but to focus on it with renewed vigor and a new level of creativity."

Chris Zook & James Allen

To survive, a company must grow revenue from the core of their business. This article describes how open source can be used to help support revenue growth. We suggest seven strategies and provide examples of successful implementations for each.

Ways Companies Can Use Open Source to Grow Revenue

Growing revenue is a challenge for most companies. The selected growth strategy should complement the core business. Open source, carefully applied, can help improve revenue growth potential by leveraging increased adoption, community participation, strategic partnerships, and optimizing product positioning. This section reviews seven ways a company can use open source to grow revenue and provides examples of successful implementations.

1. Sell services to government agencies that collaborate with the company to contribute code to an open source project. A company can jointly develop open source software with a government agency. The company benefits from the innovation and development work of the government agency and earns revenue by selling support and consulting services and developing specific features for the agency and other customers with similar needs. One advantage to this type of collaboration is that the government agency is not likely to become a direct competitor to the company. European governments are leaders in the adoption of open source (http://news.cnet.com/8301-13505_3-9992379-16.html). There have been rumours (http://blogs.techrepublic.com.com/opensource/?p=324) for some time that the US government will be following suit, opening the door for new opportunities.

2. Sell more of a product that depends on open source. A common strategy is to use open source as a means of increasing the value of a primary, closed product. This approach is often leveraged by hardware manufacturers that have an embedded software component. Since the hardware, not the software, is their core business, opening up the development of the embedded software can promote the use of the hardware and provide a competitive advantage over other hardware vendors.

For example, the core business of Nokia is to develop and sell cell phones. Nokia recently acquired the Symbian (http://www.symbian.org) cellular phone operating system and promptly released it as open source. By allowing the open source community to improve the operating system, Nokia increases the value of its cell phone. A larger number of developers will advance the cellular phone operating system and Nokia will be able to bring more features and services to its customers, leading to more sales revenue.

3. Sell proprietary products built on top of an open source platform and capture the brand value that results from leading the development of the platform. A company can lead the development of an open source platform and sell the proprietary products it builds

on top of the platform. As the open source platform grows it creates brand value for the company that leads its development. The brand becomes a valuable asset for the company. Sometimes the value of the brand exceeds the revenue that the company receives from the sale of its products built on top of the open source platform.

This approach to growth allows the company to focus on the differentiations for which customers are willing to pay and monetize the value of the brand that results from leading the development of the platform.

The Sun Microsystem's (now Oracle) Java platform is an example of such an approach to growth. The Java brand enjoys high recognition and is associated with a broad range of products and services, from desktop applications, to web services, to cell phone games. Sun's open source platform development strategy led to the effective creation of a "new product" for the company in the form of a brand, and they captured value through the lucrative licensing of the brand.

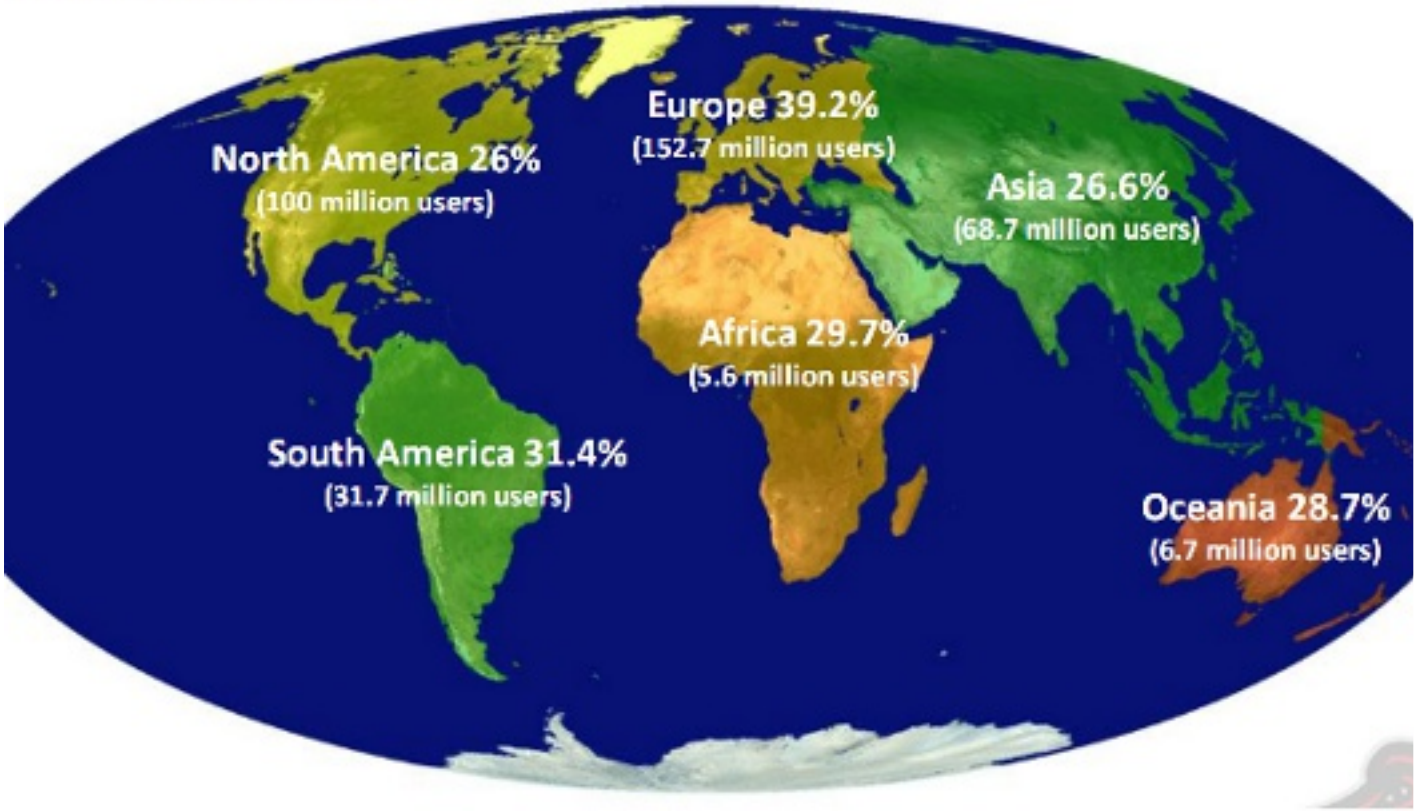
4. Sell more products by adapting language, interface, and features to different geographies and linguistic environments. This approach to growth entails reaching new geographies with existing products/services whose language, interface, and features have been adapted to be suitable to different geographies and linguistic environments. To implement this approach the company first modularizes all the regionally-specific components into a generic framework called a locale. Locales can be developed by participants in underserved markets who would benefit from access to products/services that weren't initially written for them. Mozilla's Firefox web browser is one of the most successful examples of such a growth approach. It has locales available for over 70 different languages and regional needs.

It is likely that this localization strategy played a role in its rapid adoption, grabbing a sizable share of new markets where localized versions of Microsoft's Internet Explorer were not available. Figure 1, from Mozilla's Q1 2010 Analyst Report on the State of the Internet (http://blog.mozilla.com/metrics/2010/03/31/mozillas-q1-2010-analyst-report-state-of-the-internet), shows the international usage statistics for Mozilla Firefox, highlighting the success of its localization efforts.

5. Sell new products and services in one place of the supply chain while concurrently introducing open source software in another place of the supply chain. A supply chain is a set of companies that work to progressively refine a product/service from basic principles, such as raw materials or consulting, until it is ready for consumption by an end user. Each company in the chain adds some value to the product or service and, in turn, extracts some value from the supply chain. This value extraction is not uniform as different companies at different places in the supply chain extract different amounts of value. In a vendor dominated supply chain, there is one company that extracts the lion's share of the value. Yet, this position is precarious. If it extracts too much value, there may not be enough resources to support the rest of the supply chain which could collapse. Such a collapse can happen even when there is high demand, especially if a product/service is disrupted. The key to company survival and growth is to gradually move towards the most profitable place in the supply chain, the place where the most value can be extracted.

One approach to shifting the value extraction point in the supply chain is to introduce an open source product/service that is positioned to compete with products offered at that level of the supply chain.

Figure 1: Firefox Worldwide Market Share



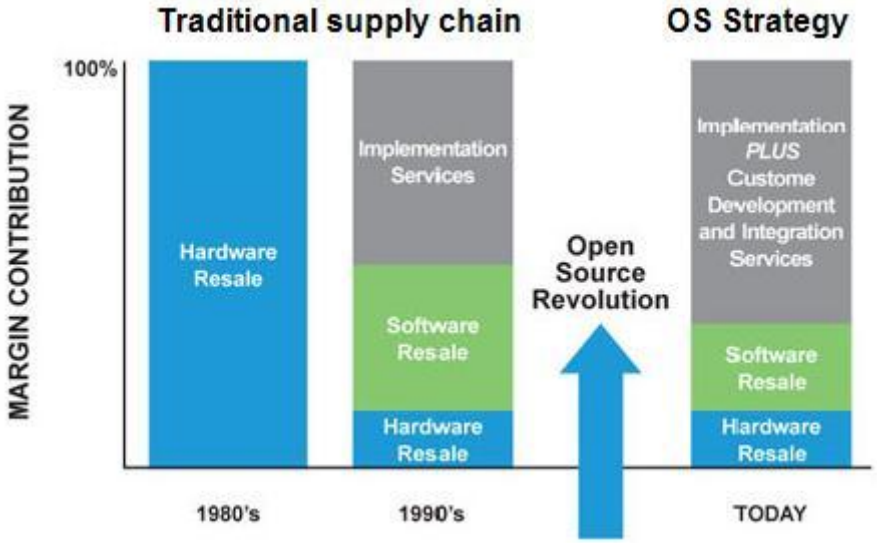
This introduction is effectively signaling to the market that, since an open source product is replacing a paid product, the value-added is elsewhere in the supplier chain. This may lead to a devaluation of the other products at that position. The core business must, at the same time, focus on research and innovation to introduce new products/services that refocus and capture customer attention. This diversification strategy leverages the loss leader (http://en.wikipedia.org/wiki/Loss_leader) open source strategy, while positioning the loss leader elsewhere in the supply, outside of the core business, insulating it from devaluation effects.

This strategy is being experimented with in the Netbook supply chain. Several Netbook manufacturers have moved to release open source embedded operating systems for their devices that offer basic functionality such as web browsing and media playback.

This strategy is testing the ability to weaken Microsoft's dominant position in the supply chain while funneling the value to device manufacturers who previously could only extract a small percentage of the total value generated by the supply chain.

Greg Wallace describes (http://linux.sys-con.com/node/173425) a similar effect in the customer relationship management (CRM) system supply chain based on the strategic choices of open source company SugarCRM (http://sugarcrm.com). By moving the focus away from hardware and software and towards value added services in the CRM supply chain, SugarCRM positioned itself as the leader in customization services, its core business, extracting the lion's share of revenue from the supply chain. Figure 2 describes the evolution in the CRM supply chain in terms of value.

Figure 2: Evolution of CRM Supply Chain



6. Open source a legacy product that is no longer generating sales. Software evolves quickly. New versions are released all the time, and new products replace old ones. Companies that have been around for a while will have a library of older titles that they developed and sold in the past which have since become obsolete, or are otherwise out of date. These older products are perfect candidates for open sourcing. The best way to open source them is to leverage a strong distribution channel, such as an online service, and to sell the complete product, documentation, and code as a single package for a significantly reduced price. The low price will lure customers who are interested in the product for personal research, interest, and nostalgia. By combining everything in a single place, from an authoritative source, even if the now-open-sourced product becomes available elsewhere at no cost, customers are likely to pay the small amount of money to purchase through the authoritative source.

The best current example of this strategy is Id Software (http://idsoftware.com) which has a policy of releasing its games as open source under the GPL open source license five years after their initial release. This strategy has led to continuous sales of their legacy, open-sourced titles through their website, Microsoft's Xbox Live content distribution service, and Valve's Steam distribution service, with some games still selling well over a decade after their initial release. It has also led to a large community following for Id Software games, with numerous ports, expansions, and other value-added components being developed for free by the community, adding value to the games themselves. This strategy also draws attention to the latest games that Id Software releases, increasing their sales.

7. Open source a transactional product. With the evolution of the Internet into a near-real-time, transactional network, products with distributed components that rely on network services have become common place. The businesses that develop these products maintain a network infrastructure or complex database structure and generate revenue from the product transactions that use these services. By releasing a transactional product as open source, a company can increase revenue generated by the user transactions by increasing adoption of the product.

This front end provides access to the network services, and may even provide access to basic services at no cost to develop a user base. The value of the service is based on the strength of the network or data mining possibilities with the database, and, as such, the company is protected from imitation by competitors who might adopt the open-sourced front end.

There are several examples of this strategy in industry. Linden Labs, the makers of the popular virtual world Second Life, have released their Viewer and Snowglobe development environment as open source (http://wiki.secondlife.com/wiki/Open_Source_Portal). This strategy has attracted attention from developers and new users alike. Linden Labs generates most of its revenue from services such as item sales and land transactions within the virtual world, so releasing programs used to access its services leads to an increase in their revenue potential. The revenue increase following the open source move has been substantial, with an increase of user-to-user transactions of over 65% year over year (http://blogs.secondlife.com/community/features/blog/2010/01/19/2009-end-of-year-second-life-economy-wrap-up-including-q4-economy-in-detail).

There have been rumours (http://linux.slashdot.org/story/09/11/02/1353245/Skype-For-Linux-To-Be-Open-Sourced-In-the-Nearest-Future) that voice over IP giant Skype will soon be releasing its client as open source. Such a move would also fit with this model, as Skype generates its revenue not from sales of its software, but rather from network services. By open sourcing its software, it would be opening the door to novel uses of its network services, increasing its revenue.

Conclusions

Growing revenue is challenging and an open source strategy can help companies attain their growth goals in novel ways. This article reviewed some of the strategies that have been successfully implemented by industry participants. They can serve as a starting point for companies to plan out a strategy that will successfully fuel their revenue growth while supporting their core business.

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"The entrepreneur in us sees opportunities everywhere we look, but many people see only problems everywhere they look. The entrepreneur in us is more concerned with discriminating between opportunities than he or she is with failing to see the opportunities."

Michael Gerber

Growth is a risky but necessary procedure for startups to survive. Growth may be assessed in the context of employees, customers, revenue, liquidity, profit, geographic locations and a variety of other dimensions. Regardless of the growth type, hurdles always exist. An entrepreneur who understands the risks, and knowingly takes them, will have a chance to grow; whereas one who is not willing to take risks will not.

This article describes both the risks and benefits associated with growth. It then examines six hurdles entrepreneurs face when attempting to grow a company: company culture, networks, strategic planning, money, company structure, and skill development.

Growth Risks

All companies undergo periods of growth. Periods of growth are turbulent for any company, as they are inherently unstable and carry risk. In practice, there will always be barriers impeding growth. It is both the will and the ability to overcome these barriers which enable a firm to grow. The will, as an extension of the entrepreneurial spirit, is needed as there are many companies which stagnate due to their unwillingness to take the risks associated with growth. While growth may appear risky compared to temporary stability, stagnation in a high-tech company increases the risk of failure. Innovating in response changes in to the market is a good way to mitigate risk. Careful planning can decrease risk.

Being able to anticipate the majority of risks involved and successfully navigating them is what allows firms to grow.

Growth Benefits

Growth helps firms to establish legitimacy, creating new options to grow. Larger firms are statistically less likely to fail, encouraging trust in costumers and potential investors. It is during and right after a period of growth that firms find it easiest to acquire investment capital (http://tinyurl.com/26f4fom).

Firms which are perceived as having crossed their startup hurdles are seen as being stable. With size comes an increase in profitability and liquidity for the firm. This gives a firm a history, which partners and investors are more willing to trust. Assets and finances will thus become more attainable than they were before. With growth, the firm forms new connections and is able to access new markets. This results in an increase in sales, profitability and influence.

Company Culture and Networks

The personalities of the founders of a startup can be an important driving force in the growth of the startup. The founders will determine the scope and vision of the company, as well as the risks and deals the company will take. Founders are responsible for shaping the culture of the company.

As the company grows, the founders will make national and international connections with suppliers, competitors, customers and investors. Founders with national and international connections are more likely to grow their companies than those with only regional connections (http://allbusiness.com/management/623171-1.html). A large network allows companies to easily expand and find partners in new regions which in

turn allows them to quickly expand their customer base. Being able to choose from a variety of markets, as well as the ability to innovate internally, gives a company a greater ability to adapt to a globally changing marketplace. This in turn allows for steady growth.

Strategic Planning

Firms require strategic planning, both short and long term, in order to succeed. Long term success requires effective daily management and strategic decisions. It also requires that these are not at the expense of the long term plan. Firms that do less short and long term planning are at a greater risk for failure (http://www.allbusiness.com/buying-exiting-businesses/exiting-a-business/801799-1.html). Many firms pursue short term contracts and quick profits without considering the long term impact of their choices.

It is easy for a firm to get discouraged when a long term strategy does not net immediate results. Firms often do not realize that setting a long term goal, and making strategic choices for that goal, will not give immediate positive results. Being able to execute short term plans while aligning with long term goals may be difficult, but is necessary to give the firm a vision which allows focus and unity amongst the employees. A firm which only chases short term returns may be able to make profit for a while, but will have a difficult time attempting to grow. Being able to set frequent milestones and to guide actions towards a long term goal can be an effective way to manage short term tasks. This allows short term goals to be put in the context of the larger picture, while allowing for the tackling of each individual instance to be molded for specific circumstances. It is a good idea for a company and its employees to know their 1, 2, 3 and 5 year plans to unify the goals and allow transparency on how the company is reaching its milestones.

Money Matters

Many companies plan poorly or take too many risks and face fiscal issues. Lack of capital is a characteristic of a startup. Over-optimism on the cash that will be available may be a deadly characteristic of a startup. Due to the high failure rates of startups, it is difficult to secure large amounts of financing if one cannot guarantee a return on investment. Most banks are unwilling to fund startups. Venture capital and angel funding is also difficult to obtain as there are many more companies seeking such funds then there are funds being given out. For many, government programs which are usually less well known and thus have less competition provide an alternative funding source. Trade credit with suppliers is also a possibility.

Many startups bootstrap (http://en.wikipedia.org/wiki/Bootstrapping) as a means to get started, as this method will not incur a large debt. The best form of financing for a startup is from the customer that buys products and services. This method allows for growth with a predictable increase in income. Fiscal problems are common and repetitive during a startup's lifecycle. Being aware that these problems will occur, and being prepared with a plan to proceed with a limited budget, allows for a startup to grow with much less risk than one which assumed that the money would be there when it was needed. The company must plan for the possibility that it will not have the entirety of the finances it needs, and come up with contingencies. Financial planning needs to be an integral aspect of short and long term strategic plans, with allowances for there never being as much money as a company wants or expects.

Company Structure

When a company is small, it is possible for all information channels to be central-

ized around one person, usually the founder, enabling that person to make decisions quickly based on information directly from the source. During and after growth, as the firm loses some internal transparency, it is often not possible for a single individual to keep track of all the information without setting up formal communications channels. As the company expands, managing daily operations will become exponentially difficult, if the same managerial structure is kept. This creates a double impact, giving the central figure less time to communicate with others, as they spend increasing allotments of time attempting to manage operations. Many firms find this difficult in the first growth cycle as the founder will often not feel psychologically comfortable with giving up direct control over all aspects of the company. Having a deep structure of shared rules and beliefs within the company will allow such transitions to flow smoothly. This allows the employees to work towards a purpose rather than work at a specific job. The purpose will remain the same even during turbulent growth, letting employees know what is expected and what they should do.

Skills Development

Inter-company training is a good way to accomplish stability during growth. Training of employees should focus on the needs of the company, rather than what is available externally to the company (http://tinyurl.com/2fmp8tj). Through a holistic training approach, it is possible to create a deep structure which encourages employees to focus on goals and to strive towards them. Training allows growth transitions to pass easier as employees know what is required of them in the overall context of the company, which allows them to continue to effectively function even when the individual details of their jobs change. Training instills a sense of career into individuals who expect to stay and grow with the company. Training makes it possible to switch employees' mindsets to that of the company's culture, making them a better fit for the company.

Closing Thoughts

Growth carries risk and the greater the growth, the greater the risk. It is not possible for a startup to grow without being exposed to risk. Waiting for a period of no risk before attempting to grow will cause stagnation. The entrepreneurial spirit of founders allows them to take risks and find opportunities for growth in a variety of circumstances. It is the ability to face failure, and the refusal to get discouraged which leads to success.

There are numerous benefits to growth, as long as the growth occurs with an overall long term purpose in mind. Every startup will run into funding issues, at conception and during growth cycles. Success will come to those who plan and do not give up or stagnate. Growth will be turbulent for a company, so a company will have to be flexible and adaptable during and after a period of growth. Having a future vision and setting policies which everyone knows can help mitigate the turmoil. One cannot plan for all risks, nor can one succeed without being able to take risks. The successful entrepreneur will be flexible enough to work with any issue that arises, while not losing focus on their long term goals.

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"If you want to accomplish something in the world, idealism is not enough – you need to choose a method that works to achieve the goal. In other words, you need to be pragmatic."

Richard Stallman

It's no secret that open source software can offer substantial cost savings to startup companies. Anybody with an idea and a limited amount of capital can launch a web-based business and scale it relatively quickly using a simple and robust LAMP (http://en.wikipedia.org/wiki/LAMP_(software_bundle)) infrastructure. But what about startup companies contracted to provide crucial parts of the Internet's plumbing, such as a domain name registry?

This article describes how registry manager Afilias (http://www.afilias.info) deployed open source, particularly the PostgreSQL (http://www.postgresql.org) database management software (DBMS), at the core of its business from the very outset, allowing it to scale as business grew. It also underlines the importance of actively engaging with the open source community in order to get the most out of a company's investment.

The Domain Name System

The domain name system (DNS) is the distributed, hierarchical addressing system used to translate human-readable strings such as www.example.com into the IP addresses used for Internet routing. Used hundreds of billions of times a day, the DNS underpins virtually every transaction on the Internet and is considered perhaps its most critical infrastructure component.

The role of a DNS registry service provider, such as Afilias, is to manage the authoritative list of second-level domains and the addresses of their corresponding servers under a given top-level domain (TLD, http://en.wikipedia.org/wiki/Tld). Every time a Web user attempts to browse a Web address, the address of the appropriate Web server is ultimately retrieved from the registry database via DNS.

From the creation of the DNS in 1985 until the turn of the century, the number of TLDs on the Internet did not substantially increase. Organizations wishing to establish an Internet presence could choose from essentially three generic TLDs (gTLDs) -- .com, .org and .net, all of which were operated by the same company –- or from one of over 200 country-code TLDs such as .ca for Canada.

That changed in 2000, when .info was approved for admission to the DNS by the Internet Corporation for Assigned Names and Numbers (ICANN, http://icann.org) and Afilias became the first company to launch a completely new gTLD. Unlike its main competitor, who had built out its systems using proprietary software, Afilias chose to build its registry systems on open source software. Ten years on, Afilias has grown from a startup to the second-largest registry operator in the world. The company's engagement with the open source community has proven invaluable for its growth and scalability.

Plumbing the Internet with PostgreSQL

In 2000, Afilias was essentially a startup company with limited capital and no guarantee of success, entering a market that was already dominated by .com domain names. The very idea of the new gTLD registries was said to be a "proof of concept". A future industry would stand or fall on the experiences of its first entrants. Above all, security and stability were key.

While the .com registry had enjoyed the benefit of time when it came to gradually scaling its infrastructure in response to the growing public interest in the Internet during the mid-1990s, the .info TLD needed to be prepared to immediately handle hundreds of thousands of domain names and to quickly scale into the millions with no disruption to services. The need to scale would be less predictable than other Internet-based businesses, depending in a large part on how successful the .info registrants' own businesses became.

The database software underlying a domain name registry is one of its most critical components, storing the key records pertaining to a domain name's location on the Internet. In the case of Afilias, which operates a thick registry (http://icannwiki.org/Thick_Registry), it also stores the Whois record for each domain which houses the authoritative contacts of the domain owners.

Because of the way the domain name industry is structured, the registry acts as a kind of wholesale warehouse, interfacing with hundreds of registrars who act as the retailers which offer domain name registrations to end users. Registrars need to be able to tell their customers on demand whether a domain name is available for registration. After a purchase, it then has to tell the registry to assign the domain to that customer. It is critical to an entire ecosystem of companies and individuals that the registry database operates at 100% availability and with confidence that the information it stores is served accurately and consistently while multiple parties read and write data in real-time. There is no room for ambiguity.

It would have been a safe call to simply sign up for a commercial database solution such as Oracle. Nobody ever got fired for buying a tried and true solution.

But in PostgreSQL, Afilias found an open source DBMS that more than suited its needs. The software was attractive due to its large capacity and its ability to handle many transactions simultaneously. PostgreSQL contained all the key functionality of Oracle or DB2 that Afilias would have utilized had it gone the commercial route, but at a fraction of the initial cost. In testing, it was quickly apparent that this open source database would deliver excellent service and better value than proprietary alternatives, thereby saving this startup at least 7 figures in initial capital.

Afilias' decision to select PostgreSQL was validated in 2003, when the Public Interest Registry (PIR, http://www.pir.org), a subsidiary of the Internet Society (ISOC, http://www.isoc.org), won a competitive bid to take over the management of the Internet's second-largest gTLD, .org, using Afilias as its DNS and registry services provider. ICANN awarded the contract to the Afilias-supported PIR initiative despite objections from proprietary database vendors involved in competing bids, who erroneously claimed PostgreSQL lacked the security and availability features required to manage such a critical resource. Close examination by ICANN showed otherwise, a finding that has been vindicated by .org's stellar performance record (100% up-time) even as it has nearly tripled in size since the PIR/Afilias duo assumed stewardship.

You Get What You Give

While the decision to deploy an open source DBMS saved Afilias vital capital expenditure at startup and allowed it to cost effectively scale up as .info and .org grew and Afilias added yet more TLDs, everybody knows that open source does not mean no-cost.

As a user, especially as a user who has chosen to use open source software in the most mission-critical part of its business, Afilias made an implicit commitment to support and engage with the community. You have to make a contribution in order to reap the biggest benefits.

Afilias honoured this commitment from the beginning, and started making direct contributions to the development of PostgreSQL. Some of its best database engineers were given the remit to work exclusively on the DBMS, in order to help strengthen and improve the software at the core of its systems. In the early days, this challenge occupied close to 100% of these engineers' work time, and they relished the challenge. A happy side effect of this commitment to open source was that, as Afilias grew as a company, it was able to attract some top-quality coding talent to the team. As time progressed, Afilias established steady support of official PostgreSQL events, conferences and seminars.

A key Afilias contribution to the PostgreSQL code base has been the development of a replication engine for high-transaction-volume installations. Known as the Slony-I (http://slony.info) replication engine, this software was released back into the open source community and continues to evolve today. It was designed for architectures where it is important to replicate data across multiple database nodes to multiple masters where all of the nodes are expected to be online simultaneously. It supported cascading replication, so slave nodes could replicate data to each other. In short, Slony-I delivers greater speed, efficiency and reliability. Afilias' engineering staff are leading efforts towards the next version of replication for PostgreSQL, Slony-II.

Not coincidentally, the Slony replication engine powered an important part of Afilias' growth strategy. A high-performance replication engine is a vital component of a registry's DBMS, if it wants to provide reliable addressing to Internet users. A domain name registry has to be both authoritative and available. To achieve redundancy and seamless switchover capability, the registry's core database is best mirrored in multiple locations on multiple networks, thereby ensuring 100% availability with high reliability. This, in turn, increases the importance that data remain authoritative: all instances of the same database need to serve the same data, requiring that changes to the master data set be reflected instantaneously at each replicated location. As the number of transactions and the number of replicated instances increase, the database system must effortlessly keep track of each committed change to the data and copy it accurately and completely across each replica.

Closing Thoughts

Afilias found that engaging seriously and directly with the open source community gave it the ability to shape the direction of PostgreSQL's development and help improve it, for everybody's benefit, based on its own experience as a power user. The beauty of open source is that it grows according to the input of participants. As a company grows and scales up, it can use that experience to help grow and scale the open source software upon which it depends.

Ram Mohan is the Executive Vice President and Chief Technology Officer at Afilias, a global provider of Internet infrastructure services including domain name registry and DNS solutions. Ram also serves as the Security & Stability Advisory Committee's liaison to ICANN's Board of Directors and has helped direct and write numerous policies affecting domain name registration and DNS security.

Q. How do you make money with open source?

A. "If open source is free software, how do you make money with it?" is a question I hear often, sometime expressed simply as "you can't make money with open source".

Since 2002, I have made my living working with open source software, specifically the OpenNMS (http://opennms.org) project. While I wouldn't describe myself as wealthy in terms of money, I am both happy and comfortable. It is possible to make money with open source, although being free does mean a departure from traditional software business models.

By definition, an open source business generates revenue in ways other than selling software. While there is nothing in the open source definition (http://opensource.org/osd.html) that prohibits the sale of code, it does require that the party receiving the code be free to modify and distribute it. Thus, theoretically, you could only sell a piece of software once, which makes for a poor business plan. An open source business is best described as a services business providing value around an open source project or projects.

The last few years have seen a rise in self-labeled "commercial open source" companies, where part of the code is available under an open license, but there is a large amount of code that is still closed and licensed differently. I like to call these companies "fauxpen source" (http://www.fauxpensource.org) companies, since they are using the term "open" to market their proprietary software. Lately, the more politically correct term is "open core." Like shareware, the open or community software provides some features to get people interested, but the full featured enterprise version costs money to license. Often, a lot of money.

As a business plan, this makes sense. My complaint is that these companies trumpet themselves as being open source companies when, in fact, they are commercial software companies. This is an opinion shared by others, such as Brian Prentice of the Gartner Group (http://blogs.gartner.com/brian_prentice/2010/03/31/open-core-the-emperors-new-clothes).

If you want to start an open source business, there are a number of questions that you need to answer.

The first is the project focus: do you want to create an application that stands alone, or do you want to create a tool or library that is used to create other software? Many people think of software in terms of finished applications: Microsoft Word, Quicken, or World of Warcraft. However, some of the most financially successful open source projects have been tools or libraries, such as Spring, JBoss and MySQL. Since an open source business is a services business, tools lend themselves toward driving business than does creating a free replacement to a commercial software application.

This doesn't mean that you can't focus on application development. We market OpenNMS as a "network management application platform" where users can build a custom management solution, but it does work for many out of the box.

There are some difficulties in building an open source project where the end users are not developers, but it is not impossible. The important part is to define your end users and make business decisions based on that information.

One such decision is the choice of license. In the case of a tool or library, a permissive open source license is often beneficial.

The end goal is to get as many people as possible using your project, by allowing them to use it in both a free and commercial manner will make the project more attractive.

In the case of an application, a more restrictive open source license is a better idea. This will prevent another, and perhaps better funded, organization from taking the work of the community and commercializing it. Licenses such as the GNU General Public License (http://www.gnu.org/licenses/gpl.html) require that any changes to the code be distributed.

The main benefit of open source software lies in an active community around the project. Since profit is not driven through software sales, it is possible to attract people to work on the software for their own personal benefit without detracting from the business. It is important to create an atmosphere to encourage and build this community. There are a number of great resources on building communities, such as Jono Bacon's book (http://artofcommunityonline.org). One way we do this at OpenNMS is to have a separation between the project and the business.

Back in 2004, I realized that there were a number of people, mostly associated with the mailing lists, that were contributing rather heavily to OpenNMS in both time and code. I wanted some way to recognize them. In the UK, one of the highest recognitions one can receive is a knighthood, such as the Order of the Garter (http://en.wikipedia.org/wiki/Order_of_the_Garter). In the US, the winner of the annual Master's golf tournament receives the coveted hunter green jacket (http://en.wikipedia.org/wiki/Augusta_National_Golf_Club#The_Green_Jacket). At the time, it was possible to buy OpenNMS polo shirts in white or black, but what if I created a special hunter green polo shirt for these major contributors to the OpenNMS community?

Thus was born The Order of the Green Polo (OGP, http://www.opennms.org/wiki/Order_of_the_Green_Polo). OGP members receive polo shirts, OpenNMS e-mail addresses, and full access to the code repository. OGP members also became the governing body of the project. Each year we hold an annual developer's conference called Dev-Jam (http://opennms.org/wiki/Dev-Jam), and while anyone is welcome to attend, The OpenNMS Group (http://opennms.com) pays the expenses of attending OGP members. This recognition, more than anything, has contributed to the success of the OpenNMS project.

Once you have chosen a project strategy and have started to build your community, what is next? Decide how to structure your company. There are a number of options, but the two most popular in the US are to form a corporation or a limited liability company (LLC).

While I initially formed our corporation without the help of a lawyer, in retrospect it would have been better to consult one. There are many subtle differences that can have large tax consequences, and, depending on your goals, one may make better sense than the other.

The OpenNMS Group is a standard C corporation (http://en.wikipedia.org/wiki/C_corporation). Since the original plan was to seek outside investors, this made the most sense. Other options would have been to elect to become an S corporation, where the gains and losses of the company are passed to the owners, which is similar to an LLC. Avoid running a sole proprietorship since corporations and LLCs provide some separation between the company and the shareholders. There is a good chance that your company will become a major part of your life, and you will be risking enough not to risk your personal assets as well.

We never did attract any investors as we were able to, early on, adopt the business plan of "spend less than you earn". Most new companies fail. This is the default. But by focusing on profitability, we were able to insure that we could survive. While it doesn't align with many popular software business plans, achieving profitability early on really helped us to shape our business to where we can focus on our customers, and not just our investors.

Once we had a business plan, we needed a mission statement. We settled on "Help Customers, Have Fun, Make Money".

It may seem painfully obvious, but it is amazing how many services-based companies forget that the focus should be on helping customers. Customers respond best to people who enjoy what they are doing, so your employees should have fun at their jobs. This doesn't mean that every task should be met with unlimited enthusiasm - in any business there are going to be things that need to get done that aren't pleasant - but overall people should enjoy their jobs. In order to maintain profitability it is important to make money, but if your customers are happy and your employees are happy, the money will come.

When just starting out, the temptation will be to chase any possible customer, whether they are a good fit or not. This is not a good idea. As a services company, if you are trying to shoehorn your solution where it doesn't work, you will be spending a lot of time trying to make it happen. In the end, your client probably won't be happy and you have spent a lot of energy that could have been better used elsewhere. Resist the urge. Sometimes, what seemed like a good fit in the beginning will turn bad before it is over. Know when to fire a client.

In the support contracts that OpenNMS provides there is a clause that states that this service is not a replacement for having knowledgeable network management staff on hand. We had one client who decided that any notification he received from OpenNMS should be opened as a support ticket. So we would get a ticket like "OpenNMS is reporting high errors on this interface - what should I do?". After dealing with several of these we decided to not renew that particular client's support contract.

Assuming you are producing a product people want and that you are doing this in a profitable manner, your company will start to mature. You'll have to face a number of difficult decisions, such as when to hire more people and whether or not to get bigger offices (or offices in the first place). Take things slow and keep your eye always on profitability and cash flow. Try to map any expense to potential revenue, and if the revenue generated is greater, consider moving forward.

Most importantly, there is little difference between an open source business and any other business. While some have achieved instant riches, for the most part it comes down to hard work, helping customers, and making money (either by earning more or spending less). It's important that you have fun doing it. You might end up spending a decade at the same job, and that's a lot of time if you don't enjoy it.

Henry David Thoreau wrote "Most men lead lives of quiet desperation and go to the grave with the song still in them". Don't be that person.

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Fair Use in the U.S. Economy

Copyright: Computer & Communications Industry Association

From the Preface:

As policy makers focus on how to promote innovation and economic growth, the subject of intellectual property (IP) is frequently raised. While IP is not the only—nor necessarily the best—means to promote innovation in any given case, its expansion is a means frequently urged upon Congress. But at what cost? How much is the economy affected by where the boundaries of intellectual property are drawn? This report employs the latest data available to answer a very important question: what contribution is made to our economy by industries that depend on the limitations to copyright protection when engaged in commerce? As this report shows, such industries make a huge contribution. In an era of highly competitive markets for information goods and services, changes to the boundaries of copyright protection will alter the economic landscape. Broader regulation of economic activity by copyright might encourage additional creativity, but it will deter certain types of technology innovation, and may undermine competition and free expression. Our information policy must therefore balance the incentives that IP regulation creates against the disincentives that result.

http://www.ccianet.org/CCIA/files/ccLibraryFiles/Filename/000000000354/fair-use-study-final.pdf

BioTorrents: A File Sharing Service for Scientific Data

Copyright: Morgan G. I. Langille, Jonathan A. Eisen

From the Description:

The transfer of scientific data has emerged as a significant challenge, as datasets continue to grow in size and demand for open access sharing increases. Current methods for file transfer do not scale well for large files and can cause long transfer times. In this study we present BioTorrents, a website that allows open access sharing of scientific data and uses the popular BitTorrent peer-to-peer file sharing technology. BioTorrents allows files to be transferred rapidly due to the sharing of bandwidth across multiple institutions and provides more reliable file transfers due to the built-in error checking of the file sharing technology. BioTorrents contains multiple features, including keyword searching, category browsing, RSS feeds, torrent comments, and a discussion forum.

http://www.plosone.org/article/info:doi%2F10.1371%2Fjournal.pone.0010071

Open Data Study

Copyright: Becky Hogge

From the Description:

Substantial social and economic gains can be made from opening government data to the public. The combination of geographic, budget, demographic, services, education, and other data, publicly available in an open format on the web, promises to improve services as well as create future economic growth. This research, commissioned by a consortium of funders and NGOs (including the Information Program) under the umbrella of the Transparency and Accountability Initiative, seeks to explore the feasibility of applying this approach to open data in relevant middle income and developing countries. Its aim is to identify the strategies used in the US and UK contexts with a view to building a set of criteria to guide the selection of pilot countries, which in turn suggests a template strategy to open government data.

http://www.soros.org/initiatives/information/focus/communication/articles_publications/publications/open-data-study-20100519

Lowering the Cost of Business Intelligence with Open Source

Copyright: Third Nature

From the Summary:

The top reason given for the use of open source business intelligence software is cost savings. The question is whether open source matters when it comes to license and support costs. How real are cost savings? How much does BI software and ongoing support actually cost? This is a complex question because of the extreme variability and lack of transparency in traditional enterprise software license models, packaging and pricing. The short answer is that open source does matter.

http://www.pentaho.com/lower_bi_costs/

April 15

Recent Developments in Proactive Disclosure and Open Data in Canada

Ottawa, ON

With the advent of new technologies that make document distribution on the Internet cheaper and easier than ever before, many governments are shifting to an "e-democracy" model of access to information. In addition to operating the traditional request-based system where a member of the public asks for a government document and receives a hard copy (or an electronic one), increasingly, governments are moving many of their documents and data online, where members of the public can search for material themselves. This paper provides examples of the proactive disclosure systems that are developing or already in place in Canada.

http://www2.parl.gc.ca/Content/LOP/ResearchPublications/2010-14-e.htm#a4

April 28

Canada Joins International Network Providing Free Access to Health Research

Ottawa, ON

The flow of information and ideas amongst researchers is a fundamental element in turning knowledge into discoveries that will address the health challenges of tomorrow. Thanks to the newly launched PubMed Central Canada (PMC Canada), Canadian researchers can now contribute to a growing, searchable digital archive of published Canadian health research. PMC Canada is the result of a partnership between the National Research Council's Canada Institute for Scientific and Technical Information (NRC-CISTI), the Canadian Institutes of Health Research (CIHR), and the US National Library of Medicine (NLM). With the launch of PMC Canada, Canadians have a freely accessible national digital repository of the latest peer-reviewed health and life sciences literature at their fingertips, including research resulting from CIHR funding.

http://cisti-icist.nrc-cnrc.gc.ca/eng/news/cisti/2010/pubmed-central-canada-launch.html

June 15

Drupal Government Showcase

Ottawa, ON

The Showcase is a free, unconference for discussing the use of Drupal within the Canadian government.

http://groups.drupal.org/node/68343

June 15-16

Rendez-vous OSGEO Quebec

Saguenay, QC

Members of the OSGeo community will share their projects and realizations, and visitors will have the exceptional opportunity to meet and interact with our great line-up of invited speakers, some of the key players of the North American OSGeo community.

http://rendez-vous-osgeo-qc.org

June 18

Maritime Developer Conference

Moncton, NB

This one day conference will include sessions on Java, NoSQL, Ruby, and Python.

http://propelict.com/event/maritime-developer-conference

June 29

Eclipse DemoCamp

Toronto, ON

Eclipse DemoCamps are an opportunity to showcase all of the cool technology being built by the Eclipse community. They are also an opportunity for you to meet Eclipse enthusiasts in your city.

http://wiki.eclipse.org/Eclipse_DemoCamps_Helios_2010/Toronto


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Triple Through Sustainability
SMART ROTOR SYSTEMS
SiliconPly
EventuSix
cornerportal
MARKTEK
Clearview
NewEraHealth
MarkOff Security

The goal of the Open Source Business Resource is to provide quality and insightful content regarding the issues relevant to the development and commercialization of open source assets. We believe the best way to achieve this goal is through the contributions and feedback from experts within the business and open source communities.

OSBR readers are looking for practical ideas they can apply within their own organizations. They also appreciate a thorough exploration of the issues and emerging trends surrounding the business of open source. If you are considering contributing an article, start by asking yourself:

1. Does my research or experience provide any new insights or perspectives?

2. Do I often find myself having to explain this topic when I meet people as they are unaware of its relevance?

3. Do I believe that I could have saved myself time, money, and frustration if someone had explained to me the issues surrounding this topic?

4. Am I constantly correcting misconceptions regarding this topic?

5. Am I considered to be an expert in this field? For example, do I present my research or experience at conferences?

If your answer is "yes" to any of these questions, your topic is probably of interest to OSBR readers.

When writing your article, keep the following points in mind:

1. Thoroughly examine the topic; don't leave the reader wishing for more.

2. Know your central theme and stick to it.

3. Demonstrate your depth of understanding for the topic, and that you have considered its benefits, possible outcomes, and applicability.

4. Write in third-person formal style.

These guidelines should assist in the process of translating your expertise into a focused article which adds to the knowledgable resources available through the OSBR.

Upcoming Editorial Themes

July 2010:	Go To Market
August 2010:	Interdisciplinary Lessons
September 2010:	Language Technology
October 2010:	Governance

Formatting Guidelines:

All contributions are to be submitted in .txt or .rtf format.

Indicate if your submission has been previously published elsewhere.

Do not send articles shorter than 1500 words or longer than 3000 words.

Begin with a thought-provoking quotation that matches the spirit of the article. Research the source of your quotation in order to provide proper attribution.

Include a 2-3 paragraph abstract that provides the key messages you will be presenting in the article.

Any quotations or references within the article text need attribution. The URL to an online reference is preferred; where no online reference exists, include the name of the person and the full title of the article or book containing the referenced text. If the reference is from a personal communication, ensure that you have permission to use the quote and include a comment to that effect.

Provide a 2-3 paragraph conclusion that summarizes the article's main points and leaves the reader with the most important messages.

If this is your first article, include a 75-150 word biography.

If there are any additional texts that would be of interest to readers, include their full title and location URL.

Include 5 keywords for the article's metadata to assist search engines in finding your article.

The Talent First Network program is funded in part by the Government of Ontario.

The Technology Innovation Management (TIM) program is a master's program for experienced engineers. It is offered by Carleton University's Department of Systems and Computer Engineering. The TIM program offers both a thesis based degree (M.A.Sc.) and a project based degree (M.Eng.). The M.Eng is offered real-time worldwide. To apply, please go to http://www.carleton.ca/tim/sub/apply.html.