

Disruptive Technology Successful Example: Open Source Software and RedHat

Open source software is nothing new, but it continues to transform the nature of technology today. Back in the 1970s and 1980s, graduate students were sharing program source code, simply because it was the way things were done. However, today open source software refers to an entire industry of products whose source code is freely distributed and available for modification by users.

Large, established software companies like Microsoft have recognized the threat of the open source movement for decades. In the late 1990s, Microsoft's huge market share on the operating system industry started claims of its monopolistic nature. In 1999, during Microsoft's court case, Mac, BeOS, and Linux were offered up by Microsoft's legal team as alternatives to Windows, as proof that Microsoft had competitors. Yet Linux, a fully open source operating system, was 100% free and had no person or organization devoted to it (Wayner, 2000, p. 4). This fact devalued Microsoft's claim that Linux was a competitor, but many within the industry recognized the threat that the open source movement posed to Microsoft over the long term.

When open source software is combined with the web infrastructure, the results can be particularly disruptive, especially to traditional proprietary software providers. Dan Tynan of PC World lists "open source + web tools" as third in his list of *The 10 Most Disruptive Technology Combinations* (Tynan, 2010). Increasingly, consumers and businesses are forgoing the installation of software on their computers and are instead moving toward web services, which are often built on open source software. Games are no longer installed directly on computers; they are played online. Similarly, picture-editing software, email clients, and even word processing applications are being performed on web platforms rather than on individual personal computers.

Apache, an open source web platform, currently accounts for 54% of all web servers, with Microsoft's IIS in second position at 24% (Netcraft, 2010). These statistics highlight the fact that most web services today are built upon an open source structure.

Within the open source movement, there have been several organizations that were able to use open source products to achieve true commercial success, and one of the best examples is RedHat. RedHat Linux was created as a bundled distribution of the Linux operating system and other open source software, with the goal of making it easier for people to install and use Linux. With RedHat, the various components are available as packages. In addition to providing ease of installation, each package can be upgraded, configured, or removed individually. Before distributions were available, Linux required a great deal of effort to install and configure, and each open source application required its own installation and configuration. For example, a typical web server may require hundreds of individual applications, and dealing with each application on an individual basis requires an extensive time commitment and level of skill. RedHat simplified this process by providing installation that today rivals Windows for simplicity of set-up.

As a company that has successfully managed a disruptive technology, RedHat followed several technology management best practices. First, they established a training and certification program to ensure they would have enough skilled workers to support this new technology infrastructure. Second, they planned their global strategy to take advantage of emerging worldwide markets. Third, they recognized and addressed a major weakness that existed within the open source industry (lack of support). Each of these techniques is discussed in this paper.

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RedHat Linux was introduced in 1994 and experienced immediate success. In August, 1999, RedHat went public on “the eighth-biggest first-day gain in Wall Street history (RedHat, 2010). Today, RedHat continues to be the ideal example of commercial open source success, with revenues that have grown throughout its organizational life cycle.

There were several important decisions made by the RedHat management team, which contributed to RedHat’s success as a commercial open source product. Prior to going public in 1999, RedHat established a formal training model and certification program, which included benchmarks for the skills required by RedHat Support Partners worldwide (RedHat, 2010). The introduction of a training program and the establishment of measurable skills provided a way to ensure a continued supply of technical resources to support the RedHat infrastructure. These skills are required by organizations in both the input and processing stages. As inputs, the skills represent developers who help improve RedHat installations worldwide. As processing components, RedHat certified professionals provide value-added services within organizations that offer support services.

RedHat placed an early emphasis on training, and continued to enhance its training and certification programs over the years. By 2002, the RedHat certification program was rated the #1 IT training program in overall quality by Certification Magazine/Fairfield Research (UniTech) and in 2006 it was listed as one of the 10 hottest certifications by CertCities.com Annual Readers' Choice Awards. In 2003, the company launched its RedHat academy to bring the RedHat certification program to schools and colleges worldwide. By ensuring continued and relevant knowledge of their product, RedHat has positioned itself to maintain an ongoing supply of skilled workers for its development and support efforts. In addition, the company worked to achieve

the US Department of Defense COE certification, which provided important inroads into establishing their product within the public sector. They later formed a Government business unit to support products within global governments. RedHat management considered global expansion immediately after going public. In September of 1999, RedHat announced its expansion into Japan, which shows that the management team identified a global strategy very early in the organizational lifecycle. In 2005, RedHat’s Matthew Szulik received the Morgan Stanley Leadership Award for Global Commerce (RedHat, 2010). Today, open source environments can be found throughout the world, as seen in this open source activity map. By identifying a clear global strategy that included both sales and training, RedHat established an early lead in installations worldwide.

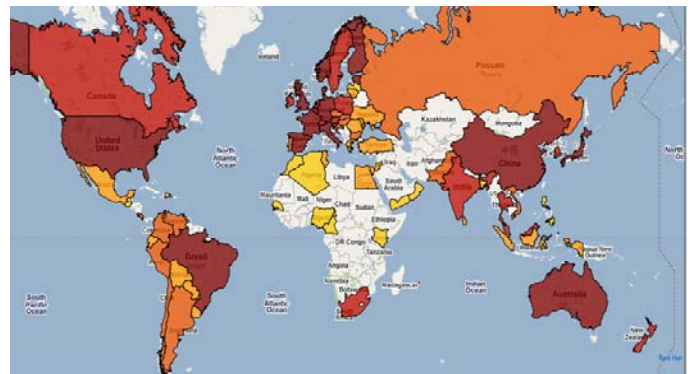


Figure 1-<http://www.redhat.com/about/where-is-open-source/activity/>

One of the primary weaknesses of open source software is a lack of support. Fortune 500 companies will often make technology decisions based, in part, on the level of support provided by the product. In the past, this worked to the benefit of established software companies, such as Microsoft. Moving to Linux involved risk, since there was no “Linux” company to call if the product stopped working. To address this weakness, RedHat acquired Cygnus, an

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organization dedicated to providing commercial support for open source software, in November of 1999. This was an important step in establishing the RedHat support infrastructure, which was one of the first available for open source software. The RedHat support infrastructure allows large organizations to balance the risk of moving to an open source platform with the confidence of a company to support the product.

RedHat's technology management practices have fueled the organization's success over the years. By 2000, RedHat had won InfoWorld's "Operating System of the Year" for the fourth consecutive year. The company was also named one of the Red Herring "Top 50 Public Companies" (Linux Today, 2000). By July of 2000, RedHat held 70% of the worldwide Linux market share. More recently, in 2008 RedHat was named the #1 IT vendor for the second consecutive year in Japan, and in 2009 the IDC ranked RedHat the overall leader in training and certification in a worldwide competitive analysis (RedHat, 2010).

RedHat is one of the few companies with a successful business model built on profiting from open source software. They have continued to grow, and have even reported an increase in revenues over this latest recessionary period. Their technology management practices contributed to their success and included global expansion and mergers, as well as creating successful training and support divisions.

The example of RedHat teaches us several important business lessons. First is the importance of organizational structure and the impact of that structure on management's ability to make significant changes within the organization. There are times when organizational structure should be modified to better support the changes within the organizational domain. RedHat did this throughout their success by adding divisions for global sales and support.

Second, inputs into an organization can greatly affect the level of success. An organization must ensure there is an adequate supply of skilled workers to meet customer needs. However, skilled workers are not enough. The organization also needs to be able to charge for the processing tasks the skilled workers perform. In the case of RedHat, their support group provides expertise as a fee-based service.

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