

# **Moving Towards a Healthy Office Suite Market**

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## Introduction

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Beginning in the early 80's with the first “minicomputers,” computing has increasingly moved from being the realm of scientists and researchers to being available to the masses. Major applications of computers in the office and home have revolved around writing and calculating – two bedrock applications included in today's office suites in the form of word processors and spreadsheet programs.

Broadly defined, an office suite is a program or collection of programs including a word processor for writing, a spreadsheet program for calculating and finance and a presentation program. This is a rather narrow definition with most office suites today including many other functions including HTML editors, calculators, drawing programs and even database programs.

The separate programs used in an office suite have been in existence for quite a long time<sup>1</sup> but did not take off until the mid-80's when the cost of computers came down to a level that allowed businesses to put individual computers on employee desks. Closely tracking business developments, the home market also expanded rapidly in the mid-80's.

Open Source Software (OSS) has been around since the beginning of computers. It was only in the 1970's that issues of ownership and open vs. closed source software came to the forefront; Bill Gates being an early proponent of closed source software as he famously decried those who copied his version of BASIC without paying him. It was only with the advent of the Internet in the early 1990's that enabled the OSS movement to take off by allowing geographically separated programmers from around the globe to work on projects together in real time.

Today we are at a crossroads in software development. Increasingly, OSS is being developed which has all of the capabilities and robustness of closed-source software. In fact, in many cases, OSS has surpassed and come to dominate particular niches. As OSS is developed it tends to drive the margins available to closed-source software down and, many believe that for many applications closed-source software will become unprofitable and either itself become open sourced or disappear.

One area of OSS development is in the office suite market. This market is currently dominated by the Microsoft Office suite but there are many potential OSS competitors

with several high-profile contenders who stand to take market share away from Microsoft over the next several years. There are a number of factors and changes in the office suite market (ecosystem) which these OSS office suites must address if they are to be successful.

## **Open Source vs Closed Source**

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At the most basic level, the difference between open and closed source software is the license they are released under. A simplified explanation of the differences between the two is that closed source programs are those where the source code is not freely available and open source programs are those whose source is freely available. But the difference between the two goes beyond availability of source code; there are also philosophical and legal differences.

A common saying of OSS proponents is that “software should be free as in speech but not necessarily free as in beer.” They believe users of software have a right to see and modify the source code of programs they choose to use. Closed source proponents on the other hand believe the value of their intellectual property (IP) will be reduced if others can see and/or modify the source code to their programs. They see source code as a trade secret to be guarded carefully.

A very good example of the benefits of OSS over closed source software is the tiny country of Iceland. Microsoft does not produce a version of their operating system (OS) which provides support for Icelandic; probably due to the small size of the market<sup>2</sup>.

Linux, an open source OS which does not make decisions on features based on potential financial gain, supports Icelandic because there are programmers in Iceland who have access to the source code.

Further, because the source code of OSS software is available, users are in control of the software, not the producers. If the company which produces the software decides to stop maintaining or upgrading the software the users will not be forced to find a new vendor. OSS moves control of software from the vendor to the user. As has been recently seen with Microsoft's strong-arm tactics with schools<sup>3</sup>, this is a very real issue.

## **Office Suite**

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What exactly is an office suite? For the purposes of this paper, an office suite is defined as a program or collection of programs which includes the functions of a word processor, spreadsheet program and has presentation capabilities. Other components often included in office suites include databases, HTML editors, calendar programs, image editors, browsers, finance programs, formula editors and many others. As can be seen, other than the three basic programs listed above, what can be included in an office suite is almost as variable as the people who use them. Common uses of the three major programs (functions) of an office suite include:

### **Word processing**

At the most basic level, a word processor allows for the manipulation of text. Standard features today include font and style control, spelling and grammar checkers and even basic page layout capabilities.

### **Spreadsheet**

Allowing for the storage, manipulation and presentation of numbers, spreadsheet programs began as a mimic of their namesake for accounting and financial uses. Today spreadsheets are used for many more uses including modeling, data presentation (such as the results of a race) and even as simple databases.

### **Presentation**

The youngest of the three basic components of an office suite, presentation software is used primarily to communicate information through text and graphics and often onto a projection screen.

These three functions encompass a very large range of office and personal tasks; from writing letters and memos to calculating complex budgets and scientific modeling. Prior to the widespread use of computers and office suites, people and businesses had to use many methods of recording and retrieving information; carbon paper, index cards and filing cabinets have all been replaced as well as support staff dramatically reduced directly due to computers.

## Ecosystem

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In many ways the software market mimics a biological ecosystem. There are producers (software companies and organizations), users (businesses, individuals, organizations), various species of each type and, competing (and not always compatible) desires between all of them.

A healthy ecosystem is one where there are multiple agents (producers/consumers) with overlap in their areas of specialty and a robustness which evolves from this allowing the system as a whole to be quite flexible in responding to various pressures.

Applying this definition to the office suite market, we find the market is not a healthy one; we see that a single vendor, Microsoft, dominates the market. Although it can be argued that Microsoft initially came to this position by having the best office suite and by capitalizing on missteps of competitors, once in the market dominating position they have gone to great lengths to maintain their position.

Much like an unhealthy ecosystem, since the mid-1980's there has been a gradual decline in the diversity of the office suite ecosystem to today where MS Office controls over 90% of the office suite market. Reasons for this decline include competition – many early office suites were not able to compete with Microsoft's offerings and non-competitive forces such as the networking effect<sup>4</sup>, proprietary file formats and Microsoft's anti-competitive behaviors.

There are very good reasons for a healthy ecosystem to exist for not just the office suite market but for all markets. In the early 1800's machine manufacturers worked very hard to place barriers to entry/exit for competitors and customers. They even went so far as to create high switching costs by using custom bolts for their machines which were incompatible with rival manufacturers machines. This ensured that customers had to purchase spare parts from them and that customers could not use competing machines without a high investment. Once machine manufacturers stopped trying to build anti-competitive fences they were able to focus their energies on developing new and better machines to serve market demands.

The custom bolts in today's office suite market are file formats. Today, machine manufacturers do not produce bolts, they purchase standardized bolts and focus on their

core business of building better machines (although there are still manufacturers who play this game to some extent). Several competitors have managed to reverse-engineer Microsoft file formats providing a certain amount of compatibility but Microsoft formats remain closed, subject to change at the whim of Microsoft<sup>5</sup>. Only when the file format is standardized on an open format such as XML, will office suites be able to compete on features instead of focusing on building barriers to entry/exit.

The current office suite environment is not a healthy one but, market economics is the best way to remedy the situation. Even given Microsoft's heavy-handed tactics with OEM PC producers, various licensing schemes and FUD<sup>6</sup>, if users do not have a compelling incentive to move away from Microsoft, they will not. Changes which might provide incentive for current users of Microsoft Office to switch to competing products include:

### **A desire for freedom from proprietary programs and file formats.**

Many government organizations, including the German, Chinese, Taiwan and Peruvian governments<sup>7</sup> among others are realizing that to entrust their data to proprietary closed programs and file formats is not an appropriate strategy to serve their constituency. For example, Microsoft has repeatedly changed their file formats for MS Office and does not guarantee that they will continue to support old versions of these file formats. With many documents being committed to electronic archives, there will come a day in the not-too-distant future when governments who use Microsoft software will be unable to access their archives without the help of Microsoft, the owners of the file formats. If the formats are open standards, they need only fear hardware obsolescence, not software obsolescence<sup>8</sup>.

### **Economics**

Many studies indicate that by moving to an open source office suite the TCO (Total Cost of Ownership) will drop by about 25%. As Microsoft has increasingly made their offerings more expensive<sup>9</sup> and become more draconian in their enforcement of “piracy”<sup>10</sup> people have begun to balk and to search for less costly alternatives.

### **Network Effect**

The Network Effect, also known as Metcalfe's Law states that after a competitor gains a certain amount of market share consumers begin to adopt their offerings simply because

they are the largest and best known competitor. The Network Effect also makes it extremely hard for new competitors to break into many markets. Open Office and Star Office both read/write to MS Office file formats very well for all but the most complex files. With file format problems essentially surmounted, the effects of the Network Effect with respect to the office suite market is reduced.

### **Total Cost of Ownership (TCO)**

As much of a draw “free” (price) is, most end users do not care if their software is free. Much as they accept that they will pay an auto mechanic to repair their cars, consumers are willing to pay a price for support and reliability of their software. If the cost of the software is less than Microsoft's offerings, more reliable and has adequate help/support (i.e. A lower TCO), they will readily adopt it.

## **Major Office Suites**

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### **Microsoft Office**

Microsoft Office dominates the market with over 90% market share. Also, it is arguably the most technically advanced office suite with the most features and best user interface. Major criticisms of MS Office include, ironically, that it is bloated and offers too many features.

### **Word Perfect**

Once WordPerfect (WP) was a leader in the office suite market but missteps by its various owners<sup>11</sup> and various tactics used by Microsoft have reduced it to a small bit player.

### **Open Office**

Open Office (OO) began life as Star Office, a proprietary office suite which was purchased by Sun in 1999<sup>12</sup>. Deciding they could not compete with MS Office directly, Sun released the source code for Star Office under the GPL and Open Office was born. The best known and most advanced open source office suite which recently achieved version 1.0 – a large milestone for an open source project, Open Office has many of the advanced features of MS Office and has almost complete file compatibility with MS

Word, Excel and Powerpoint.



## **Star Office**

Sharing the same code-base and almost exactly like Open Office in all respects, Star Office (SO) is sold by Sun Microsystems. The largest differences between OO and SO are the support offerings and a few minor features. It is believed by many that (surprisingly) one disadvantage many open source offerings have is that they are free – people who do not know the market will believe a free program to be of lower quality than one they pay for. Time will tell if this is true.

## **AbiWord**

Begun as a project to build a cross-platform open source word processor, AbiWord is but one component of an emerging office suite. Like many open source offerings, the project is very young, only begun in 1999 and only recently achieved the version 1.0 milestone.

## **Koffice**

Not cross-platform, Koffice is an integrated office suite available on the KDE desktop environment which runs primarily on \*nix distributions such as Linux.

## **Mozilla**

Not really an office suite, Mozilla does include several functions of an office suite including an innovative combined text and HTML editor, email suite and, chat functions in addition to the flagship web browser. Mozilla is included here due to the potential future of Mozilla as it is more of a development platform which could (relatively) easily be expanded to include all of the functions of an office suite. Much like the OO/SO combination, Mozilla is the open source version of the new Netscape browser, both very similar in function and appearance.

## **Barriers to entry**

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There are a number of barriers to entry that exist in the market for any new office suite to be able to capture market share away from Microsoft. These barriers include:

### **Network Effect**

As discussed above, people need a compelling reason to change. Given two equal products, they will stick with what is familiar, even if the competing product is slightly better or cheaper due to switching costs. Any competing office suite must be at least equal to MS Office and must afford a significantly lower TCO.

### **File Format**

A very real concern today is file format compatibility. Currently the leading competitors to MS Office (OO, SO, WP) all are able to read/write to MS Office formats indicating that this barrier is rapidly disappearing. User awareness is growing that if they are saving files in a proprietary format they no longer have total control over their data.

### **Marketing**

With their dominating position, MS is able to leverage their monopoly in the desktop OS market to extend their office suite. In fact, it has been observed that their OS is almost considered a loss-leader for their other products<sup>13</sup>, with MS Office generating the bulk of their profits.

### **Preinstalls**

Most end-users of computers find them to be complex and mystifying. Even installing new software is often looked at with great trepidation. This is a large reason why OEM pre-installs of software are such a large determination of market share and one large reason why Windows won out over competing Oses in the late 80's<sup>14</sup>. By misusing their market power to continue to persuade OEMs to preinstall only MS products, they have been able to squelch potential competitors. Also, simply due to download and install times, most users stick with what is already installed on their computers than take the time and effort to download and install new software which, with a 56K modem, can take several hours.

## **Development and R&D**

MS Office has evolved and improved over the years with the increases seen in computing technology. It would be unfair to say that it has taken MS nearly 20 years to develop MS Office to the level it is while others have developed similar products in far fewer years, they have all built upon advances in technology which have occurred over the past 20 years (i.e. All the boats (individual programs) have floated higher as the water level (general technology) has risen). However, to begin development of an office suite from ground zero today would be a very lengthy and costly undertaking. Using the Mozilla browser as an example, the developers decided in 1999 to discard the Netscape 4.x code and begin anew. Only in the past few weeks has Mozilla 1.0 finally been released – nearly 3 years of work by a team of dedicated developers assisted by many part-time and hobbyist developers.

## **Transition to a Healthier Ecosystem**

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As history has shown over and over again, nothing is permanent. Time was when it was believed AT&T would own the telephone forever, when IBM held a stranglehold on the computer market, when Standard Oil was essentially the only oil company, when JP Morgan controlled much of the world's finances. What then must occur for Microsoft's domination of the office suite market to end and a healthier market with multiple players emerge? Barring legal action such as what broke up Standard Oil and AT&T, the market itself must cause these changes to come about.

First, open standards in file formats must be adopted by competing applications. As discussed earlier, once producers of office suites no longer compete by erecting fences the consumers of office suites will benefit as the energy of building the fences will be channeled into better products. Several open standard file formats exist (i.e. RTF, TXT) but XML is the one which is gaining in popularity fastest today due to its extensibility and compatibility with the internet; even Microsoft is said to be moving their file formats towards XML.

Very close to file format is the user interface (UI). Almost as important as usability<sup>15</sup> is standardization and similarity between applications. For example, most Windows users

expect the “save” function to be listed under the “File” pull-down menu. If it is not, this causes frustration and is one more barrier to adoption for a new program. With newer program designs which are “skinnable”<sup>16</sup> UI issues are receding.

There are many more issues which will help to increase the health of the office suite environment including better stability and security, cross-platform compatibility and interoperability, increased speed and reduced latency and, extensibility (i.e. plug-ins). But, users need compelling reasons to adopt a new program. It is not enough that the program is equal or even better than MS Office, the new program must be superior enough in the various characteristics (including TCO) to warrant the costs of switching. Microsoft gained their market share by producing a superior product and marketing it in the most effective way (preinstalls). They have so far maintained this overwhelming market share by building high barriers of entry but, with more recent changes in their licensing scheme and enforcement of their licenses either directly or indirectly through the BSA (Business Software Alliance), they have increased the incentives for users to adopt other office suites.

## **Conclusion**

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The market for office suites was quite robust in the early to mid 80's, a period of rapid development. With the consolidation and standardization of the market on the Microsoft platform in the late 80's and early 90's, a severe drop in diversity was seen where many competitors exited the market or became niche players. Today, with the rise in OSS it is impossible for Microsoft to compete with OSS offerings on price.

With a slowdown in innovation in the office suite market it is becoming increasingly difficult for Microsoft to differentiate their products technically and easier for others to imitate them thus driving margins for office suites down to commodity levels. The lead OSS office suite offering is Open Office which hit the version 1.0 mark in May of 2002. OO offers most of the features of MS Office, is just as stable, has a small learning curve and is free. Conservative market analyst Gartner estimates that OO/SO could gain 10% of the market by 2004<sup>17</sup>. This would be a significant beginning for a healthier ecosystem because it has been quite some time since any competitor to MS Office has held even

5% market share. Given that the refresh rate of computers has slowed down and most users only refresh their software with a new computer, the growth of OO/SO in the market should be viewed as a long term (10 years) trend, not something which will occur overnight.

- 1 See:  
<http://www.robotwisdom.com/net/etextfaq.html>
- 2 See:  
[http://seattletimes.nwsourc.com/news/technology/html98/icel\\_063098.html](http://seattletimes.nwsourc.com/news/technology/html98/icel_063098.html)
- 3 See:  
<http://www.usatoday.com/tech/news/2002/05/13/schools-microsoft.htm>
- 4 The “Networking Effect” is commonly known as “Metcalfe's Law”
- 5 The doc format, much like the xls (Excel) and ppt (Powerpoint) format has changed over the years. Microsoft claims these changes have all been to incorporate new features but there has been criticism that they have also changed their formats specifically to block competitors.
- 6 Microsoft is not the first nor the only one to spread FUD - “Fear, Uncertainty and Doubt” - about competing products or schemes but they have become masters at the spread of FUD.
- 7 See:  
[http://news.bbc.co.uk/hi/english/business/newsid\\_2023000/2023127.stm](http://news.bbc.co.uk/hi/english/business/newsid_2023000/2023127.stm)  
<http://www.usatoday.com/life/cyber/tech/2002/05/30/linux-government.htm>  
<http://www.taipeitimes.com/news/2002/06/07/story/0000139364>  
<http://www.oreillynet.com/cs/weblog/view/wlg/1364>
- 8 See:  
<http://www.nla.gov.au/padi/topics/13.html>
- 9 See:  
<http://www.osdata.com/holistic/cost/cost.htm>  
<http://www.buscom.com/advmat/GB231.html>  
<http://www.cnn.com/TECH/computing/9901/11/microrise.idg/>
- 10 See:  
[http://www.oregonlive.com/news/oregonian/steve\\_duin/index.ssf?/xml/story.ssf/html\\_standard.xml?/base/all\\_wire\\_stories/101386428029222529.xml](http://www.oregonlive.com/news/oregonian/steve_duin/index.ssf?/xml/story.ssf/html_standard.xml?/base/all_wire_stories/101386428029222529.xml) and  
[http://www.oregonlive.com/news/oregonian/steve\\_duin/index.ssf?/xml/story.ssf/html\\_standard.xml?/base/news/1021982499141752.xml](http://www.oregonlive.com/news/oregonian/steve_duin/index.ssf?/xml/story.ssf/html_standard.xml?/base/news/1021982499141752.xml)
- 11 The Word Perfect office suite has changed hands several times over the years. For a history of Word Perfect see:  
<http://fitnesoft.com/AlmostPerfect/index.html>
- 12 See:  
<http://www.openoffice.org/about.html#history>
- 13 See:  
<http://www.guardian.co.uk/microsoft/Story/0,2763,194462,00.html>
- 14 For an interesting analysis of how IBM's OS/2 lost out to Windows due to preloading see:  
<http://www.linuxandmain.com/features/os2retro.html>
- 15 It can be argued that UI similarity is more important than usability – QWERTY vs. Dvorak keyboard design is a classic example. The Dvorak keyboard is more efficient but QWERTY is so entrenched that it is doubtful Dvorak will ever see widescale adoption.
- 16 Skins are often derided as merely pretty and unproductive but the basic underlying technology, that the user interface can be customized allows the elimination of the user interface issue with regards to office suites. OO could build in an MS Office skin whereby most users would not be able to tell they were not using MS Office.
- 17 See:  
<http://techupdate.zdnet.com/techupdate/stories/main/0,14179,5107234,00.html>