

TIG FINAL EVALUATION REPORT

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Project Goals and Objectives

Following were the original goals identified for this project:

1. Reduce administrative burdens and costs of supporting multiple workstations, servers, and associated software.
2. Reduce program costs associated with obtaining and using Office suite software.
3. Ensure the new systems provide levels of organizational effectiveness and efficiency equal to or better than previous software packages.
4. Outsource all Internet connectivity to eliminate administrative burdens and increase reliability.
5. Provide better client file access through an integrated paperless client file system.
6. Protect critical files and information from disasters.

These goals were to be accomplished by:

1. Removing all computer services to Terminal Servers (servers that provide a workstation's functions) and removing all workstations and replacing with Thin Clients (essentially a dumb terminal—a workstation that only shows screen shots from a server and then sends the server mouse and keyboard input; the Thin Client has no real processing power of its own, but relies on the terminal server to provide that).
2. Installing and using Open Source (free) office suite software.
3. Training on new software where necessary.
4. Having a state-wide Internet Service Provider take over all Internet connectivity.
5. Installing scanners in all offices and training on use of paperless client file system.
6. Removing all server systems and the files they contain to a secure, underground facility.

Evaluation Data and Methodologies

Each objective was to be evaluated as follows:

1. Reduce administrative burdens and costs of supporting multiple workstations, servers, and associated software—comparison of time burden and cost pre- and post-implementation; longitudinal survey of program staff feedback.
2. Reduce program costs associated with obtaining and using Office suite software—comparison of cost to purchase new or upgraded software licenses against open source software.
3. Ensure the new systems provide levels of organizational effectiveness and efficiency equal to or better than previous software packages—longitudinal survey of program staff regarding effectiveness of OpenOffice; reports on time required to familiarize users with new software; trainings; training feedback.
4. Outsource all Internet connectivity to eliminate administrative burdens and increase reliability—longitudinal survey of staff regarding the speed and reliability of the new system; comparison and down-time pre- and post-implementation.
5. Provide better client file access through an integrated paperless client file system—longitudinal survey of staff regarding client file access; administrative data on physical space savings.
6. Protect critical files and information from disasters—analysis of potential threats (weather, utility failure, Internet service failure) and how those were avoided.

Staff survey results are shown in the Appendices. All staff members were queried in the first survey (Q4 2007). Thereafter, since these were longitudinal surveys, only those staff members employed at the start of the grant continued to be surveyed. The number of respondents for each survey were: Q4 2007—38; Q1 2008—37; Q2 2008—23; Q3 2008—35. The final percentages reported herein exclude neutral and no-answer numbers.

Summary of Major Accomplishments, Recommendation and Future Steps

- Legal Services of Southern Missouri (LSOSM) was able to centralize its computer system within a secure, underground facility that provided uptime guarantees over 99 percent for Internet connectivity and power provision, compared to no guarantees by previous providers, and a much higher failure rate. This system was also much more disaster ready. Under the old system, an ice storm and a traffic accident each took the networked system off-line for a day. In the new system, a tornado passed directly over the facility without any interruption and over 20 direct lightning strikes on the facility only resulted in an outage of 9 minutes.
- Workstations were removed from each users desk and were replaced with thin clients that relied on terminal servers to perform normal workstation functions. The terminal server actually runs the normal workstation desktop and programs, and the thin client displays that and allows interaction via a keyboard and mouse. The consolidation of programs into terminal servers also means that programs only have to be installed on two servers and not 40 workstations across six offices. Security checks to ensure updates are applied to systems now only take five minutes, compared to the four (or more) hours when individual workstations were involved. These thin clients were less than one-half the size of the replaced workstations.
- By having a state-wide Internet Service Provider (MoreNet) contract to provide all Internet connectivity for all offices, LSOSM was able to remove the staff burden of having to diagnose and attempt to remedy Internet connection problems. There was also a significant increase in up time and the elimination of staff time devoted to diagnosing connection issues. During a three month logged period, the previous ISPs were down a total of 137.5 hours. With the new system, during a three month period, the offices only experienced a total of 33.75 hours of downtime.
- Using Open Source (free) software eliminated costs in purchasing or upgrading all office suite software used by the program—an estimated cost savings of \$10,000. OpenOffice proved itself to provide all features necessary for staff to perform their jobs. Staff resistance to change was a challenge to effectively implementing this system; however, training demonstrated a marked change in lessening that resistance. Staff members were never able to provide evidence of any need of a particular function or ability that OpenOffice was unable to provide. Staff training on the software proved to be key to increasing their view of the functionality of OpenOffice.
- Converting to a paperless client file system provided all required record retention while making it faster and easier for staff to retrieve those files. The physical savings the paperless system provided can be staggering as evidenced through the eventual loss of 30 file cabinets and an external storage building. Additionally, after limited experience with the new system, 90% of users reported they could retrieve paperless files faster and more easily; 75% said they could track paperless files more easily; and over 70% were less concerned about the physical safety of the paperless files.
- This type of system should be considered by other Legal Services programs. To make it work effectively, training is imperative to ensure staff overcome their resistance to change. Ongoing training and debugging is also necessary to address any issues or problems that may be encountered.

In-Depth Analysis of Accomplishments

1. To what extent does the Terminal Server effectively meet all program staff needs?

The answer depends upon: (1) is downtime low enough that users can effectively do their jobs; (2) is the system fast enough to not interfere with user experience of the system; (3) do the Thin Clients operate enough like a regular workstation not to be obstructive. Quarterly user surveys answer these questions.

The first two surveys showed that between 81 and 97 percent of respondents said downtime was less than what it was with the previous system (Appendix 1). The third and fourth surveys showed fewer respondents believed downtime was less (81 and 81 percent). Upon inspection, the last two surveys closely followed downtime experienced by offices. That downtime is believed to be the cause for the significant differences between the first two and last two surveys. For speed, over 94 percent of users said the new setup was faster (Appendix 2).

Analysis of user's experience of the Thin Clients was always consistent. With respect to ease of use, over 94 percent of those surveyed reported the Thin Client was as easy to use as their previous workstation (Appendix 3). Over 99 percent reported the Thin Client worked like a regular workstation regarding software programs and functions such as printing (Appendix 4).

When questioned about their experience regarding the hardware of the Thin Client (i.e., CD and floppy drives), positive experiences fell to between 74 and 85 percent (Appendix 5). The difference in the hardware affected user's experiences. The original workstations had built-in CD and floppy drives; the Thin Clients did not. Rather, each office was provided a USB based CD and floppy drive that required users get the drive and plug it in before use. This required additional effort on the part of staff; and users reported they did not like the manner in which it operated, resulting in lower positive reports.

Users were generally happy with the space savings of Thin Clients. The original workstations measured 7"x16"x15"; Thin Clients measure 2"x7"x7" and can mount on the back of a monitor eliminating a desktop footprint altogether.

2. What impact does switching to a Terminal Server environment have on the administrative burden of supporting the system?

Staff time was *significantly* reduced. With the previous setup, where each staff person had their own workstation, each workstation had to be evaluated individually as to the need for the user. Some would need financial accounting software, some bankruptcy software, others only required a basic setup. Setup for workstations required individual installation of various programs. Additionally, under the old setup, the installation of everything except standard Microsoft products required IT staff to log on directly to those machines. Microsoft products (such as Office) had to be specially packaged and then could be pushed out to all computers somewhat easing staff burden in installation. Under the new system, all programs are installed once on the Terminal Server, and permissions are set so that only those authorized to access certain programs can open those.

Under the old setup, updates to the workstations were handled as much as possible by automated Microsoft update systems. Updates to non-Microsoft products were handled manually by staff. All servers and workstations were scanned to ensure they were running the latest patches and versions using scanning software. These scanning procedures took around four hours to complete.¹ In

¹ Times for each office were generally: Springfield Office—15 minutes; Juvenile Office—32 minutes; Rolla Office—52 minutes; Cape Girardeau Office—39 minutes; Charleston Office—47 minutes; West Plains Office—28 minutes

addition, when a workstation was not on in a particular office, the scan for that office had to be repeated when those workstations were on. Under the new system, software updates need only be installed on the Terminal Server and a scan of all systems takes less than five minutes.² Scans were initiated each time updates were released, which occurred at least once a month.

3. What programs, if any, work less effectively in LSOSM's Terminal Server system?

Computer programs previously utilized by LSOSM on individual workstations were all found to work within a Terminal Server environment, with the exception of sound. Due to the manner in which a Terminal Server compresses and sends sound, some distortion and lag was experienced when users would view flash animations in Internet Explorer. With minor tweaking of the Terminal Server as well as the Thin Clients, most distortion and lag has been removed.

4. To what extent has using Open Source software reduced costs?

OpenOffice has no licensing fees, so there is no real purchase of the software. It is free to download and install from the Internet. The alternative, which LSOSM had used for years, was Microsoft Office. Our estimate was that we would have to spend \$10,000 to upgrade to the latest version of Microsoft Office.

5. To what extent do the programs provided in OpenOffice programs meet the needs of program staff (including compliance with court rules, creation of brochures for client use, and state website documents)?

Analysis in this area is a delicate task since there is frequently a difference between a staff member's "desires" ("I don't like...") and that same staff member's "needs" ("I can't get it to do..."). Surveys of staff were expected to (and did, we believe) measure staff members' (1) adaptation to new software, (2) feelings toward that new software, and (3) difficulties in use of that new software.

We first surveyed user's experience of basic functions within OpenOffice, for example: bolding, underlining, and changing fonts. At all times, over 87 percent of participants reported that those features were easy to use (Appendix 11).

When the question changed to use of complex functions, such as paragraph numbering, styles and formatting, those percentages dropped considerably. The first survey had only 42 percent stating that complex functions were easy to use (Appendix 12). Over time, however, those percentages grew. Between individualized trainings on specific problems a user encountered and program-wide trainings, the percentages went from 42 percent to 46 percent, followed by 53 and finally 59 percent.

When questioned about whether OpenOffice met the needs of users as effectively as Microsoft Office, the percentages fluctuated a little from survey to survey, but remained (basically) the same. The percentage of people thinking it did meet their needs as effectively as Microsoft Office remained between 62 and 68 percent.

Those who thought that OpenOffice contained all the features and functions that their job required was consistent across all surveys, hovering between 86 and 94 percent (Appendix 14). Only between 6 and 14 percent of respondents ever said that it did *not* contain all the features and functions that they needed. (Administrative notes show that no staff member has ever brought up a feature or function that OpenOffice was not capable of performing, with the exception of administrative staff,

² Updates that had to be applied took varying amounts of time based upon the size of the update and the number of systems to be updated within each office and cannot be effectively summarized.

who found that the spreadsheet would not display numbers in a particular financial format, something expected to be included in the next version of OpenOffice.)

For importing older documents from a Word-based format into OpenOffice, between 68 and 78 percent of staff responded that those documents were imported properly and might only require a little reformatting for use in OpenOffice (Appendix 15). (Administrative notes show that staff complained on many occasions that documents received from outside parties were not properly formatted and that, if staff had Word available to them, it would not be a problem. Administration tried to explain that poorly formatted documents and differences in the sender's printer and our printers were the problem and not OpenOffice. Only a demonstration using Word to open those other documents proved that was true. In addition, staff had to be shown how poorly those documents were formatted and how they should have been formatted before they accepted that OpenOffice was not, in fact, the culprit.)

Over 64 percent of users said that exporting documents from OpenOffice to other formats (such as Word or Adobe Acrobat PDF) was easy (Appendix 16).

6. To what extent does the training allow people to effectively use the new software?

To answer this question, we look to the survey of users regarding OpenOffice's complex features. In the first survey (taken soon after the switch to OpenOffice), only 42 percent reported that complex features were easy to use (Appendix 12). Between each survey there were either individualized or program-wide trainings that covered issues that staff repeatedly brought up as being a stumbling block to their use of complex functions in OpenOffice.

As a result of which, we believe, those reporting that complex functions were easy to use steadily rose across each survey. Starting at 42 percent, moving to 46, 53, and finally 59 percent. These results indicate that training can and will positively influence people's ideas about how new software works and its impact on them.

7. In what ways does OpenOffice need to be adapted to ensure it meets program staff needs?

Program staff never requested any features or functionality that OpenOffice did not already provide. Administrative staff found that a specific format of financial figures was not available in the spreadsheet; however, this lack of formatting did not prevent their use of the spreadsheet, it only meant that a particular layout of those numbers was not available.

8. To what extent is the new system more reliable and efficient?

User's views of system uptime can significantly differ from reality. For example, in the first half of the grant year, between 94 and 97 percent of staff said that they experienced less down-time on the new network system. In the last two surveys (covering the second half of the grant year), those positive reports fell to 82 and 81 percent (Appendix 1).

So what happened? In the case of the last two surveys, those surveys closely followed down-time for offices. As expected, since those down-times were fresh in users' minds, their attitudes and survey answers reflected those events and were lower.

What is the reality? From administrative logs the following table shows the total down-time experienced in hours for each office during the grant, contrasted to down-time during a three month period before the grant:

| Office: | Springfield | Juvenile | Rolla | Cape Girardeau | Charleston | West Plains | TOTAL |
|--------------------|-------------|----------|-------|----------------|------------|-------------|-------|
| Grant Down-time | 4.5 | 3.75 | 17.5 | 1.5 | 1.5 | 5 | 33.75 |
| Pre-grant Downtime | 12.75 | 6.25 | 42 | 28.5 | 16 | 32 | 137.5 |

Secondarily, and something that cannot be quantified, was the frustration encountered when dealing with the individual ISPs in the old setup. In the old setup, LSOSM staff was responsible for diagnosing connection problems—something nearly impossible since the only way to diagnose those problems was by eliminating the possibility that our equipment was the problem. It was quite normal to have the phone company announce that they had tested the line, that everything was fine on their end, and that the problem was our equipment even though the problem was with the phone company.³

With the new setup, staff makes one phone call to MoreNet (the state-wide Internet service provider) and MoreNet deals with the problem. If a system is not working somewhere, it is their responsibility to find out why and get the problem corrected. This has saved staff a lot of worry and trouble. Troubleshooting Internet connection issues is now completely removed, something that took a large amount of time in the old system.

In the old system, where having local staff try different things would not work to troubleshoot Internet connection problems, and the phone companies insisted that it was not their problem, staff might have to make trips to remote offices. In the instance of the multiple-day down-time for the West Plains office, staff spent over three days attempting to determine the true nature of the problem. After a couple of days off-line, administrative staff drove to the office (1½ hours one-way), spent most of the day in the office waiting for phone company technicians, and then drove back. The ultimate problem was in the phone line itself and had to be changed out by the phone company.

9. To what extent is file retrieval easier in electronic format than it was in paper format?

We asked three questions of users to attempt to answer this question: (1) are paperless files *faster* to retrieve; (2) are they *easier* to retrieve; and (3) does it require less time to track paperless files? Generally, user responses were favorable with between 75 and 92 percent of respondents saying they were faster to retrieve (Appendix 6). Between 72 and 92 percent reported paperless files were also easier to retrieve (Appendix 7). This was expected, since every staff member has access to the paperless file system in the case management system.

Those figures fell (67 to 78 percent) regarding the time spent in tracking paperless files (Appendix 8). With regard to tracking files, comments made during the survey process indicated that those answering were keeping paper files (for court appearances) along with the paperless file system, so were still spending time tracking a paper client file.

10. How much space is saved converting paper files to electronic files?

Favorable responses were unusually low when staff were asked whether they saved space not having to store paper files. Comments made ranged from “I still have to keep my paper client files to go to court with” to “I don't have filing cabinets in my office.” As a result, we evaluate space savings in terms of (1) do offices need new filing cabinets to store records; and (2) have offices cleared any filing cabinets of client files.

No new filing cabinets will be needed for any office. Excluding the consideration of filing cabinets kept for current files (which is not expected to increase or decrease), cabinets for long-term file storage is going to be eliminated within the next year. Within the Springfield office, since the inception of the paperless system, four large filing cabinets (20”x37”x63”) have been emptied of paper

³ In one event with Southwestern Bell involving the Juvenile office, when the office had been off line for over two weeks, a call to their tech support group again started with, “we have tested the wire and everything is fine. We can even see your DSL modem.” Staff was ready for this standard position and told the person “You can actually see our DSL modem?” “Yes” the SBC representative announced quite happy with himself. “That's amazing” replied staff “since I unplugged it completely before I called you.” A SBC technician arrived later that day to find, amazingly enough, that the line had so much static on it that no DSL signal was being received.

client files. An additional eight cabinets will be cleared within the next two months, and another six are expected to be cleared within the next six months.

For the Rolla office, five file cabinets (19"x29"x52") are expected to be cleared in the next two months. And, because of the previous overwhelming need for storage of client files, the Rolla office had an external storage building that was full of client files and has been completely cleared. Charleston has been able to clear six (19"x29"x52") file cabinets.

11. To what extent is the secure facility more disaster ready than an office location?

In the old setup, servers and data storage were kept in the Springfield office and all offices relied on connectivity to that office as well as servers being up and running. Although those servers were on robust battery backups, an extended power outage (more than 45 minutes) would compromise the ability of server to continue to operate. As a result, especially in the spring when thunderstorms might mean a few hours or days of no power, all offices experienced problems.

During the grant year alone, the Springfield office encountered thunderstorms (with the loss of power and Internet connectivity), tornadoes (which could destroy the building entirely), and ice storms (which caused power outages over a few days). Those are natural occurrences. When you consider human factors: a person drove their car into an electrical transformer and the office was without power for two days.

With all servers removed to the secure underground facility, the likelihood of encountering those problems is significantly reduced. For example, during the ice storms (when people in the area were without power for up to three weeks), the underground was on generator power for only a few hours. Tornadoes went right over the underground without affecting it.

Their guarantee of over 99 percent uptime on Internet service has held true. Their 100% uptime guarantee on power is tarnished. After being struck by lightning over 20 times in a few minutes, a few minutes of electrical outage was experienced. However, compared against the hours and days the Springfield office was without power, there is no comparison but what the underground can provide better uptime.

Factors affecting project accomplishments

The primary problem we faced was user resistance to change. Over five years ago we made a software switch from WordPerfect to Word and encountered a lot of user complaints that Word was not as good as WordPerfect. Now, with the change from Word to OpenOffice, we are encountering the exact same complaints. Even with training, where we have shown staff that OpenOffice has the same features as Microsoft Office, user complaints still abound.

Usability of Thin Clients was generally the same as with a full workstation, with the following limited exceptions: (1) CDs from outside parties that were not properly closed could not be read by the Thin Clients; and (2) files being written to the floppy drive had to be saved in an old 8.3 format (e.g., users wanting to save a file named “Interrogatories to Petitioner.doc” had to rename it to the 8.3 format, something like: “IntPet.doc”). Although in most cases, the problem can be avoided (e.g., naming files in the 8.3 convention), there are some problems that cannot be avoided (being unable to read unclosed CDs) and require more complex fixes (reading the CD in a laptop and transferring to the network). This is a limit in the Thin Client itself and (with this particular version of Thin Client) cannot be overcome.

The Thin Client's nature as a dumb terminal requires advanced planning in other areas. The Thin Client can have a printer attached to it. However, configuring a Thin Client for printing and then providing updates to that Thin Client afterward is problematic. In our case, we decided we wanted all Thin Clients configured the same: only providing a menu to connect to the Terminal Server and nothing more (no individual printers).

With that decision and the decision to centralize computing power outside all offices, we must now be doubly sure that all peripherals (printers, scanners) can be utilized without being connected to anything other than the network. For printers this was easy: we were already using networked printers in every office. Scanners, however, provided a bit more of a challenge.

At first, we thought about purchasing less-expensive scanners and connecting them to scan servers plugged into the network. However, experience with print servers (that are a lot like the scan servers we could find) was not positive. Repeated restarts of the print servers and the printers themselves were frequently required and errors were not handled very well. We avoided those problems and purchased high-quality HP scanners that were built for network use. Doing that saved us from additional work and problems.

User refusal to ask for assistance via training is another factor influencing the accomplishments of this project. On several different occasions staff were asked what, if anything, they needed training on. These requests for suggestions often went unanswered until a large group got together and reported that OpenOffice was unusable. At which point, the problems they noted were addressed in a training and the problem was resolved.⁴

⁴ At one point, an entire office said that formatting was a problem and entirely unusable in OpenOffice. We asked for example documents and only *one* was provided. Examination of the document with that office (over video conferencing) revealed that the person using the document was simply unwilling to use common formatting features available in every word processing program we know about. For example, to center a title across the top of a page, the person had just used spaces and tried to move the title to where it looked centered. Within Word and OpenOffice both, there is a button on the formatting tool bar that shows text centered. A simple click (in either program) centers the line of text. [This feature, it is interesting to note, takes the EXACT same steps in Word and OpenOffice and uses a button on the tool bar that looks the same and is in the same place in the tool bar. The person having this problem considered herself educated in computer use, could get that to work in Word, but seemed completely lost in OpenOffice. She had no further comments about OpenOffice once the process was demonstrated.]

Strategies to address major challenges

Training is a must. Several trainings on OpenOffice were performed. Many of these were one-on-one training with the particular person having problems with OpenOffice. A few trainings were held program-wide, or with a specific office that was having problems. In most cases, these trainings focused on the more complex functions of OpenOffice when people reported problems with a particular feature in OpenOffice.

With regard to hardware and its use, training about the general aspects of the Thin Client was really unnecessary. Because it operates just like a workstation, trainings on its use were not seen to be beneficial (turn on Thin Client, click connect button, log on, use programs). Use of CDs and floppy drives were handled with the individuals that used them.

In a couple of instances, other attorneys sent CDs to us that had been burnt, but did not have the sessions on them closed. Because these Thin Clients are Linux based, they did not seem to react well to the unclosed sessions and refused to read the CDs. When these CDs were placed into a windows-based laptop, the CD could be read and the data transferred to the network. If other organizations choose to evaluate a system such as this, they may wish to evaluate several different versions of Thin Clients and test the functionality with unclosed CDs.

We purchased the base model of Thin Client that operates on a Linux operating system. Higher priced Thin Clients operate on Windows XP and other “flavors” of operating systems that may be able to read unclosed CDs. Additionally, those higher priced Thin Clients may even allow for the burning of CDs. These may be features that other organizations want their users to have. For us, problems of reading CDs only occurred about four or five times during the year and were not seen to be a major problem for our use.

Getting users ready for a new system and telling them about how it will be set up and how it will function will give users an idea of what is coming and give them time to mentally prepare for it. In the beginning, we figured that down time on the Internet connection would be less; but we were intelligent enough to know that down time would occur. We warned staff to be ready for this eventuality.

We recommended having a flash drive with their primary files on it; we provided each office with a laptop that could be used in the event of down time and an emergency. So, using the files on the flash drive, and the laptop that would provide their computing power, they could continue to function in the event that there was extended down time for an office. In most instances, the down time experienced was not long enough to cause an office to take these measures. However, the provision of having something to fall back upon seemed to help ease staff members' worry.

Getting used to a paperless client file system takes time. Although we do not believe that looking through an electronic file takes any more time than looking through a paper file, users tended to report that it took them more time (something we did not directly survey). It will also take time for users to become comfortable with the system holding their file in electronic format. Some staff members would clandestinely hold paper client files for many months, checking frequently to make sure the system still had the electronic version, before they would allow the paper file to be destroyed. Giving staff more information on how and where their electronic files were held might lessen the initial stress of letting go of paper.

Major lessons and recommendations

Other Thin Client versions may provide greater functionality, depending on exactly what an organization's needs are. The Linux version we selected is cheap, efficient, and minimizes risk from inside and outside forces—since it only provides a menu and no other processing, the likelihood of causing some other problem is minimal. Other versions may allow greater flexibility in use. One version we initially evaluated had Internet Explorer built in and would allow users the ability to surf the web separate from the main processing system, but also meant there were additional, sometimes hidden dangers.⁵

Networked versions of hardware are frequently more expensive than non-networked counterparts (e.g., printers; scanners), but are well worth the additional cost. Frequently the network versions give you greater flexibility and control over the device without having to connect the device to a regular workstation.⁶ With respect to the HP scanners, each unit cost around \$3000. Although substantially more expensive than non-networked scanners, these scanners were centrally maintained and operated through the server.

Paperless files seem to *shift* the burden of keeping files. With paper files, you use folders and a labeling system to keep track of them; they require physical space; and someone must know where they are located to be able place and retrieve files for staff. With paperless files, this is shifted to someone scanning and placing the files. Thereafter, anyone can retrieve the files from the management system.

Staff must also become familiar with the manner in which the paperless client files are kept. Looking through a paper file is significantly different from looking through an electronic file. That familiarity also plays a role in users feeling at ease with the system's ability to maintain those records. Users may frequently worry about the system spontaneously losing their electronic client file; where that same worry does not occur when they are able to hold on to a physical client file.

Changing software is always a problem. Staff gets used to the features and manner of use of one particular software system. When that is changed, there is a period of time during which staff must concentrate more on how to accomplish the same goals within that new software. Even where the steps are exactly the same and the nature of the software operates in the same manner, the mindset of the staff may be such that they are still expending more mental energy in accomplishing the same thing. Although they may not be doing anything functionally different, their experience is that it is more difficult because they consciously know they are using a different program. Training can, to a limited extent, lessen these feelings but will not eliminate them. Training basically shows staff that (in the case of the move from Word to OpenOffice) the use is very similar and sometimes exactly the same.

Making an Internet Service Provider responsible for maintaining connections to each office can save staff time. When problems occur, the only thing frequently needed from staff is a phone call to the provider to alert them to the trouble. In many such instances, where the provider actively monitors the connections, it will already be aware of the problem and be working on a solution.

Having the ability to locate critical systems and storage to a secure facility, especially one that has the added security inherent in being underground, can be key to being able to maintain services in the event of a disaster in one or more regions of a service area. Together with the guarantee of up times on power and connectivity, it can ensure the ability of those critical systems to handle workloads in remote offices.

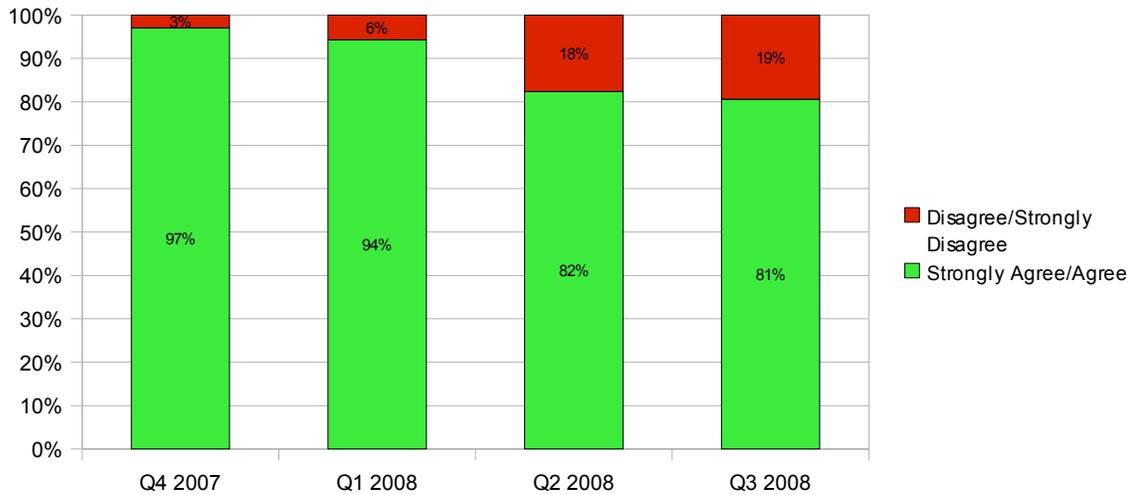
5 Thin Clients that have Internet Explorer on them may allow users to bypass proxy settings, thereby obtaining unfettered access to the Internet. This may bypass organizational limitations on staff use of the Internet and equipment. To restrict this on the Thin Client would require additional time to manage the Thin Clients to effectively provide a locked down version of the setup for all Thin Clients.

6 When a printer or scanner is connected to a particular workstation, that workstation must remain on and active for that printer or scanner to work properly. Additionally, staff time and resources are required for the upkeep of that workstation, something we wanted to avoid utilizing this grant. Additionally, that did not fit with the desire for centralized management.

All statistical analyses reflect only those positive or negative answers. Neutral and no-answer numbers are omitted.

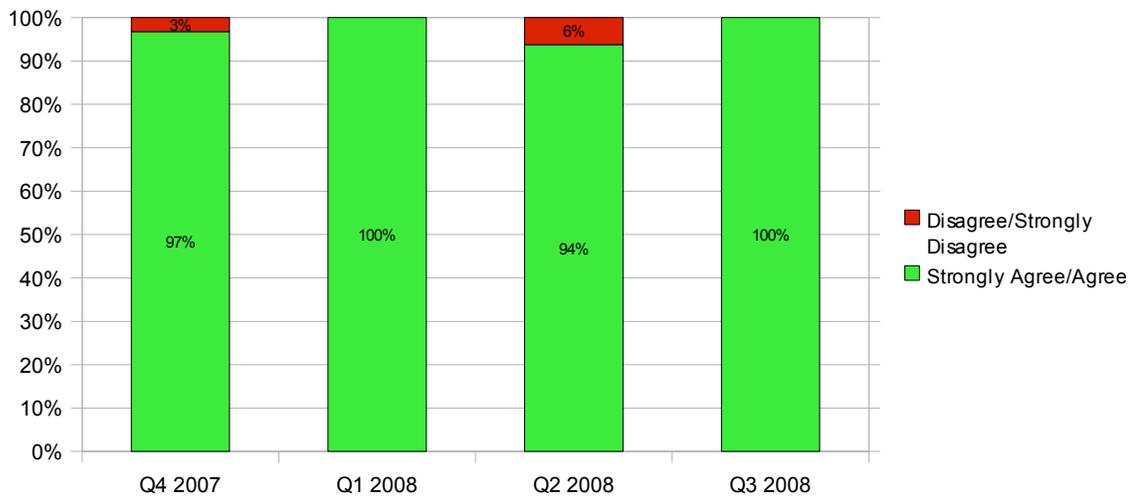
Appendix 1 – Analysis of User Experience of Downtime

Question: Compared to the old system, I experience less down-time with the new network setup.



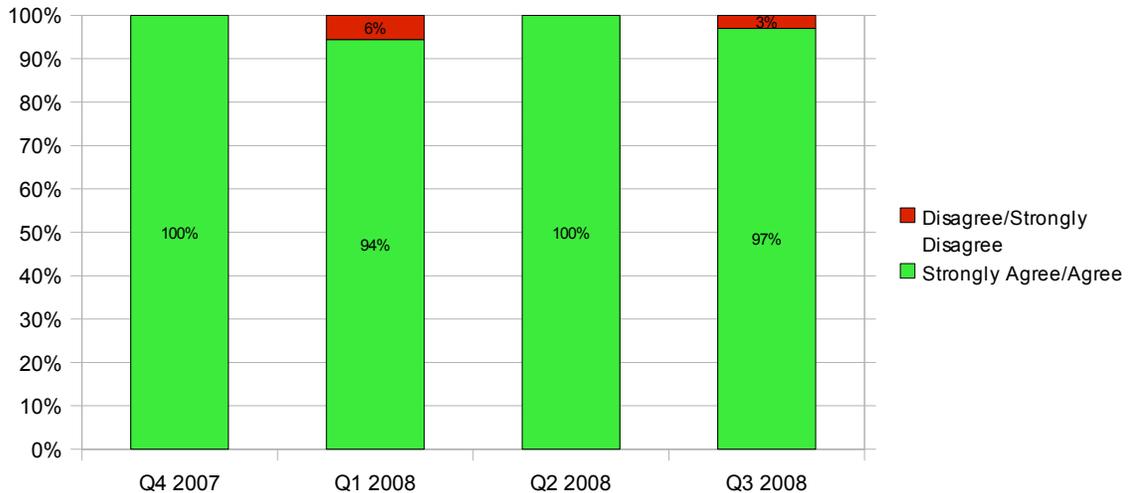
Appendix 2 – Analysis of User Experience of Speed

Question: Compared to the old system, the new network setup is faster.



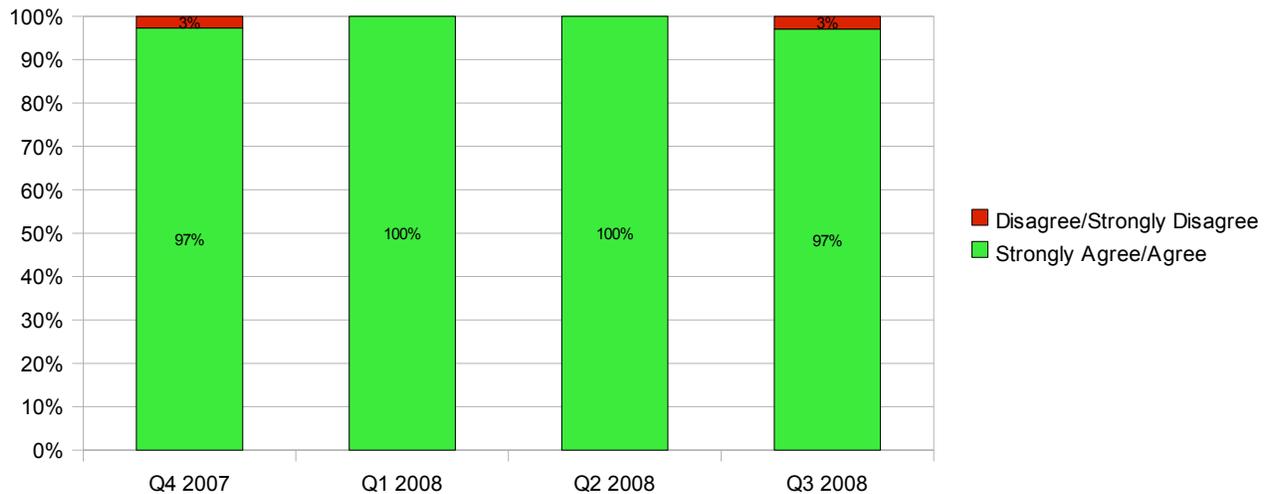
Appendix 3 – Analysis of User Experience of Thin Client Ease of Use

Question: Thin Client is as easy to use as my previous workstation.



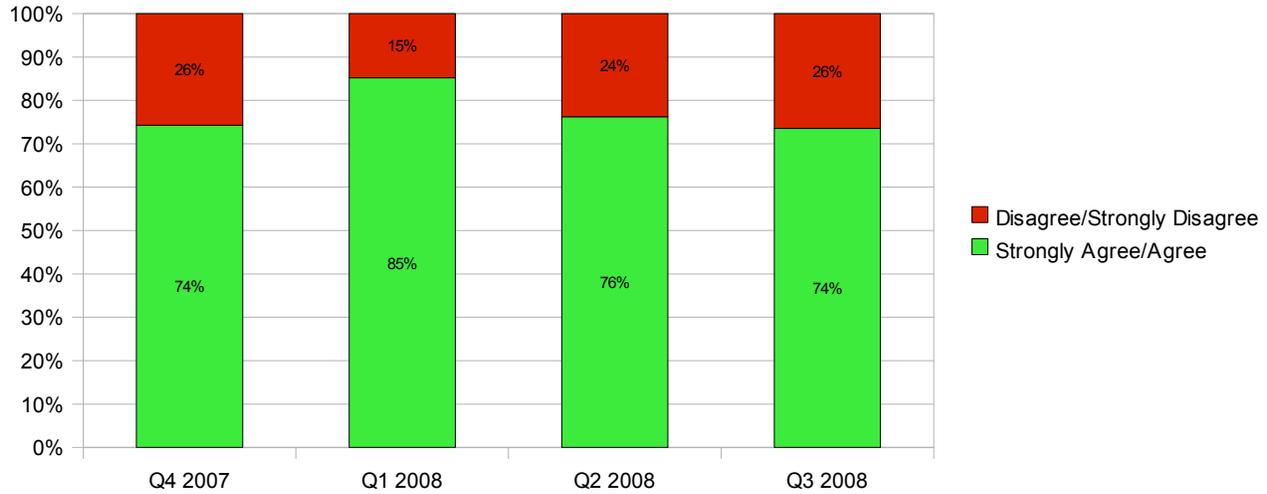
Appendix 4 – Analysis of User Experience of Thin Client Software Functionality

Question: Thin Client works like a regular workstation with respect to programs and functions (e.g., printing).



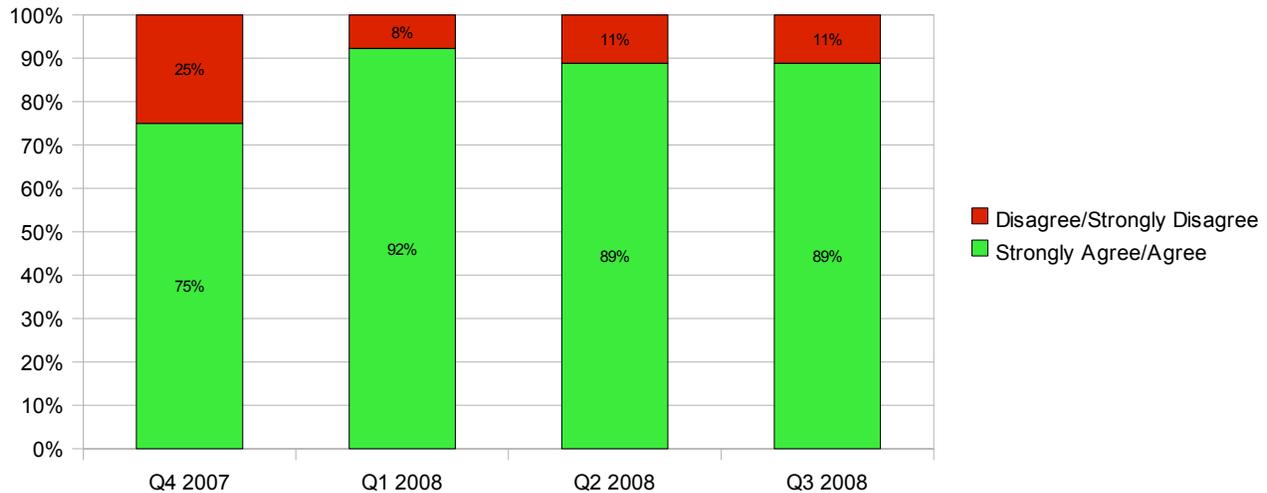
Appendix 5 – Analysis of User Experience of Thin Client Hardware Functionality

Question: I notice very few, if any differences between a regular workstation and my Thin Client with respect to its hardware (e.g., CD-ROM, floppy drive).



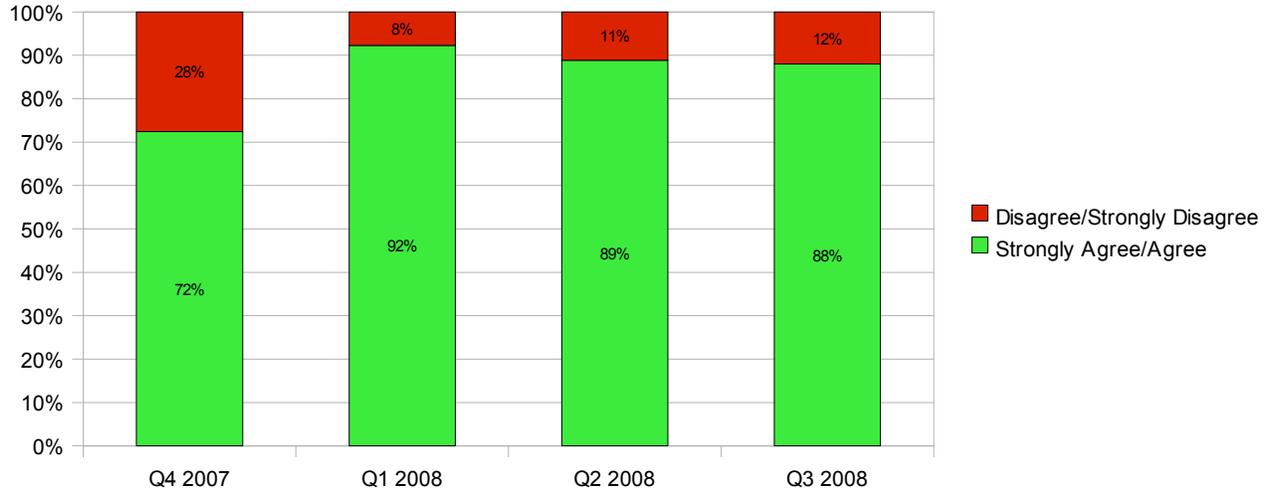
Appendix 6 – Analysis of User Experience of Speed of Retrieval of Paperless Client Files

Question: Closed and scanned (paperless) client files are faster for me to retrieve.



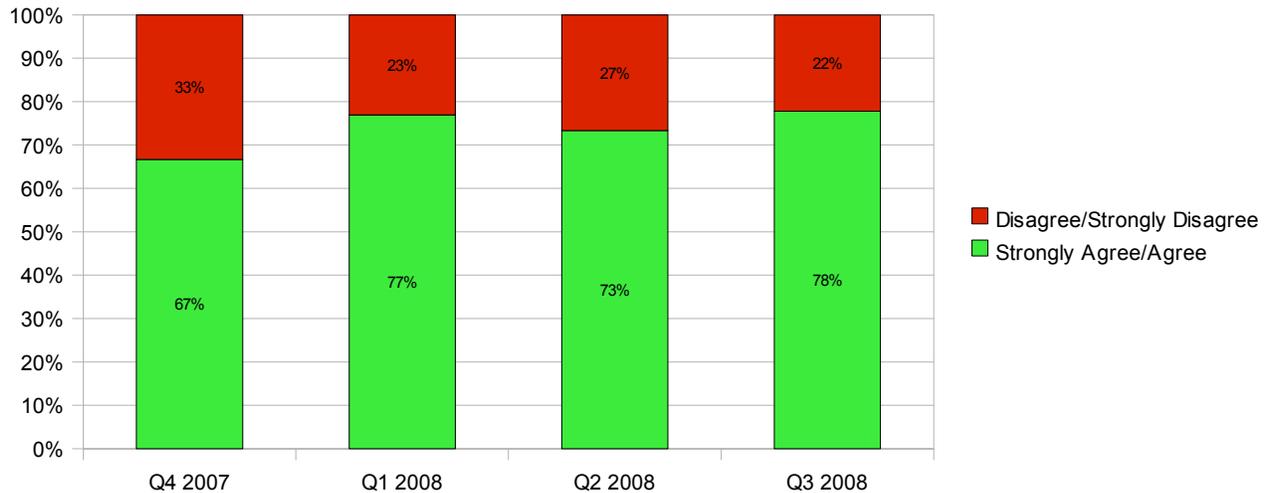
Appendix 7 – Analysis of User Experience of Ease of Retrieval of Paperless Client Files

Question: Closed and scanned (paperless) client files are easier for me to retrieve.



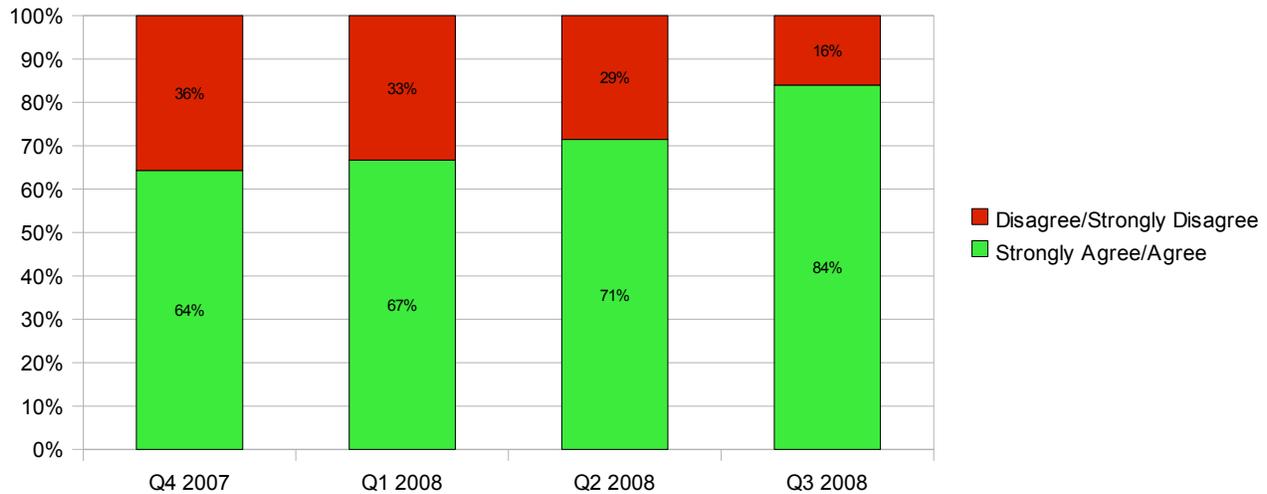
Appendix 8 – Analysis of User Experience of Time Spent Tracking Paperless Client Files

Question: Paperless client files reduce the amount of time I have to spend in keeping track of a client file.



Appendix 9 – Analysis of User Experience of Storage Space Requirements

Question: Paperless client files have substantially reduced the amount of space necessary to store paper client files in my office.

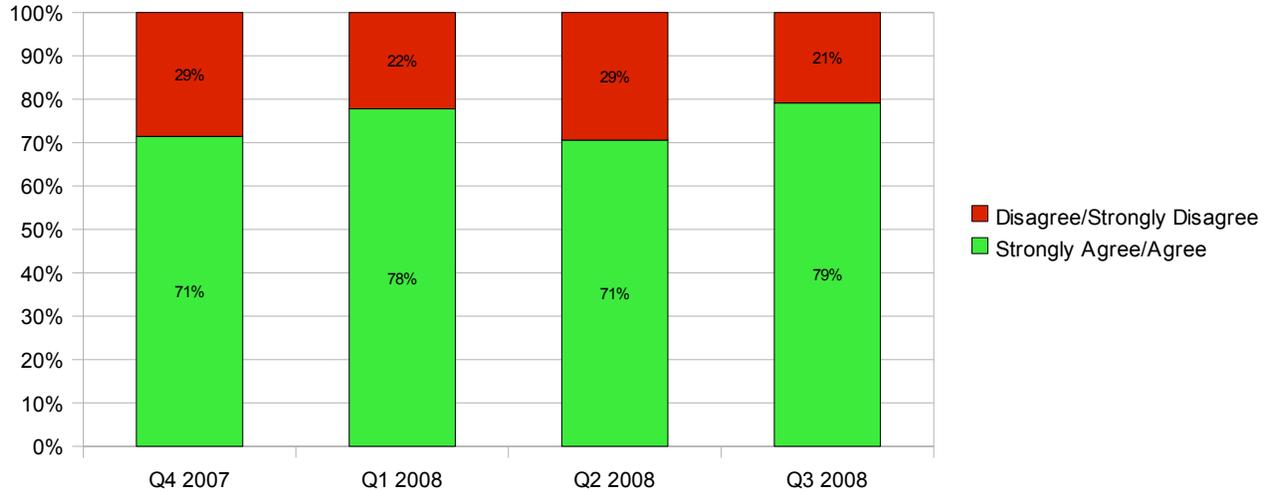


| <u>Office</u> | <u>New File Cabinets Needed</u> | <u>File Cabinets Discarded</u> |
|-----------------------------|---------------------------------|---|
| Springfield | 0 | 4 (20"x37"x63"); 8 additional cabinets will be cleared within the next two months; 6 more within six months |
| Juvenile ¹ | 0 | 0 |
| Rolla | 0 | Expect to clear at least 5 (19"x29"x52") file cabinets within the next 6 months |
| Cape Girardeau ¹ | 0 | 0 |
| Charleston | 0 | 6 (19"x29"x52") |
| West Plains ¹ | 0 | 0 |

¹ Satellite offices do not store a large number of paper client files on site, so do not show a real change in storage areas. The other offices are primary offices that do store a large number of paper client files on site and have been seeing the significant savings of space.

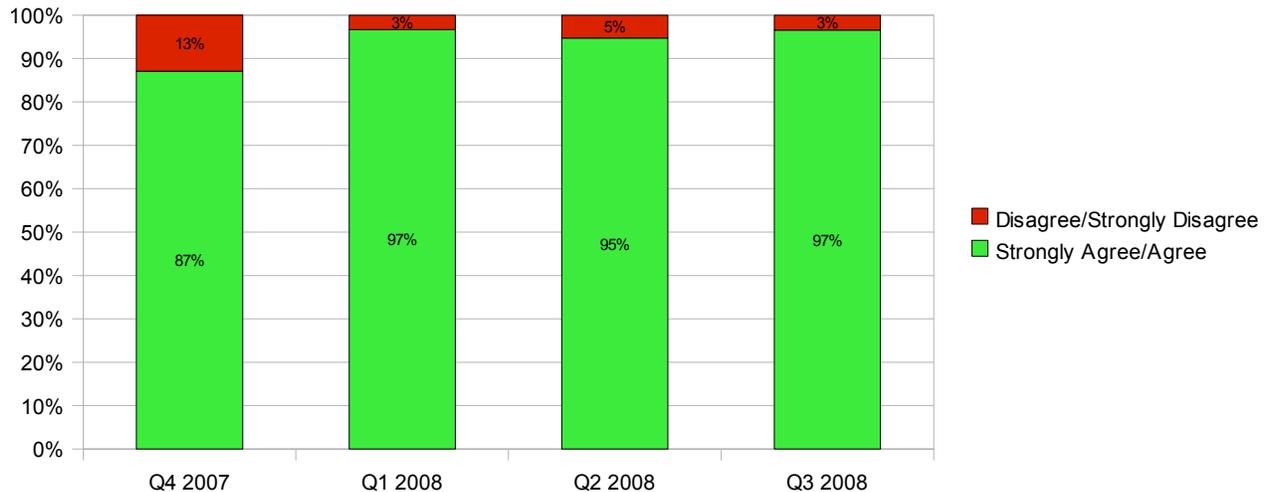
Appendix 10 – Analysis of User Concern of Client File Safety

Question: I am less concerned about the physical safety of my client files when they are stored electronically.



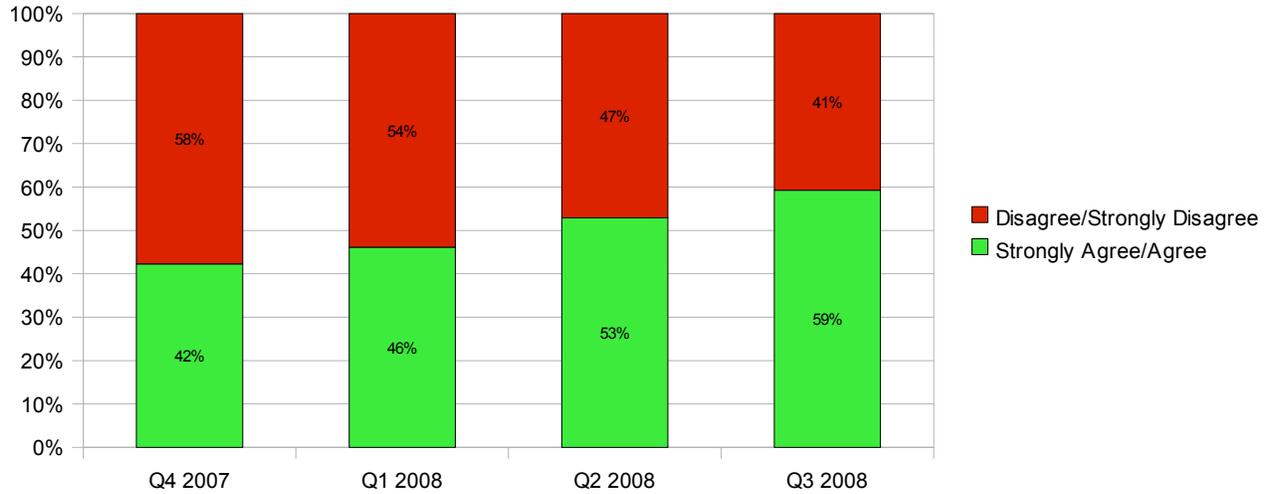
Appendix 11 – Analysis of User Experience of Basic OpenOffice Functions

Question: Basic functions in OpenOffice (e.g., bolding, underlining, changing fonts) are easy to use.



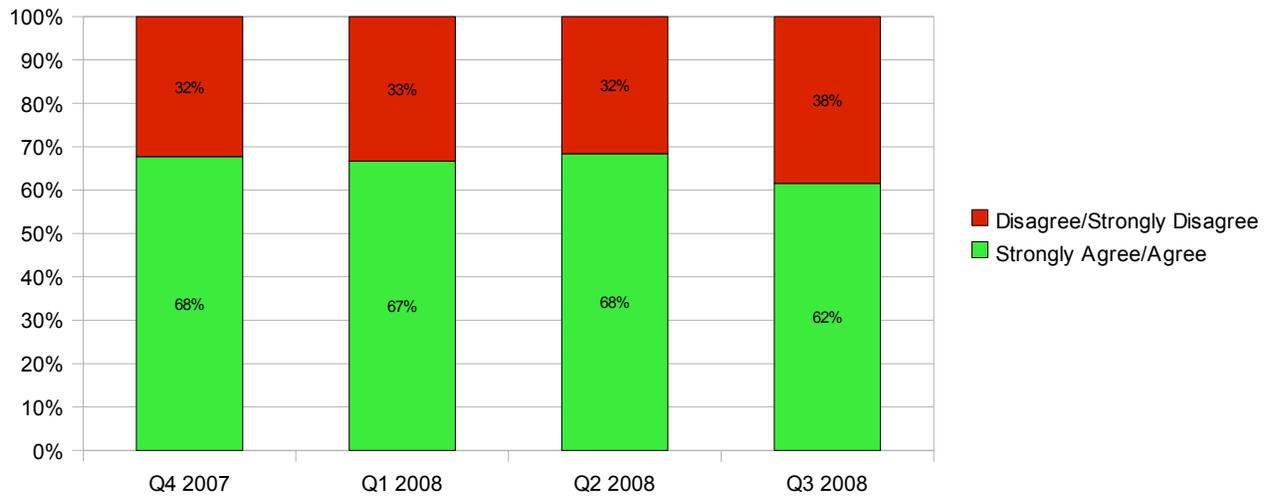
Appendix 12 – Analysis of User Experience of Complex OpenOffice Functions

Question: Complex Functions in OpenOffice (e.g., paragraph numbering, styles and formatting) are easy to use.



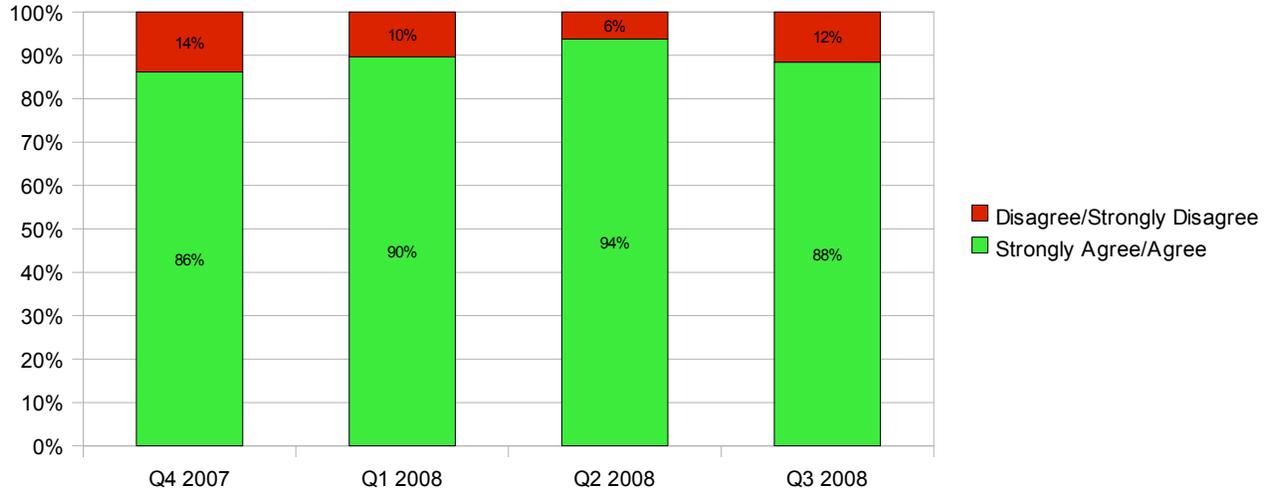
Appendix 13 – Analysis of User Needs Being Met by OpenOffice

Question: Overall, OpenOffice meets my needs as effectively as Microsoft Office.



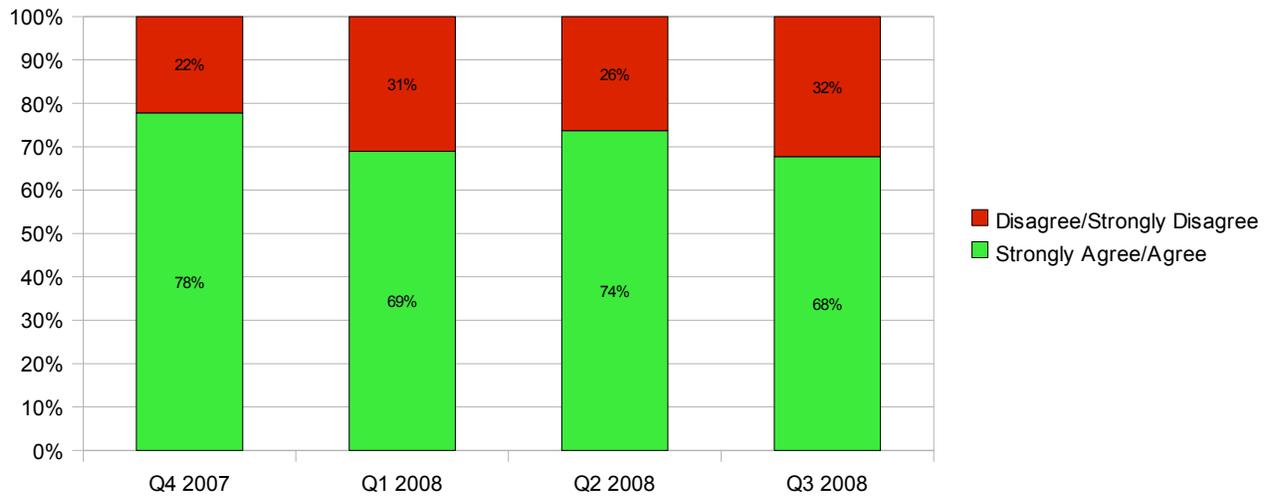
Appendix 14 – Analysis of User Needs of Features and Functions in OpenOffice

Question: OpenOffice contains all the features and functions that my job requires.



Appendix 15 – Analysis of Importing Prior Files into OpenOffice

Question: My older, Word-based forms are imported properly (the same way they were created) and only require a little reformatting to use in OpenOffice.



Appendix 16 – Analysis of Export to Other Formats from OpenOffice

Question: Documents that must be sent to outside parties (e.g., interrogatories, briefs, pleadings, notices to the board) are easily converted to another format (e.g., Word, PDF).

