

End-User Study on Email Hygiene

Co-Sponsored by The Radicati Group, Inc. & Mirapoint, Inc.

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1.0 Introduction

Despite thousands of anti-spam products, anti-spam legislation, numerous anti-spam coalitions and better end user education, we're still not there. Spam continues to plague inboxes around the world, and perhaps the most concerning aspect is the increasing complexity and danger of the messages. No longer just a minor nuisance, spam messages today can harbor viruses and spyware, while others "phish" for sensitive information like social security numbers and bank accounts.

With this problem still in full swing, we designed a study attempting to get to the heart of the issue. What are the email habits of average end users? How educated are they in spam management? Does anyone actually read, or even buy, the products and services advertised in spam messages? Has instant messaging spam become a problem as well?

In the following pages, we reveal the answers to these questions and others, based on a survey of 791 email users.

2.0 Survey Sample

Our survey of 791 users was conducted in March and April of 2005. Survey demographics are shown in the table and figures below.

About one-third (34%) of our respondents were corporate business users and two-thirds (66%) were consumers.

Survey Sample Size		
	#	%
Total Respondents	791	
Corporate Users	268	34%
Consumer Users	523	66%

Table 1: Survey Sample Size

Corporate vs. Consumer Email Users

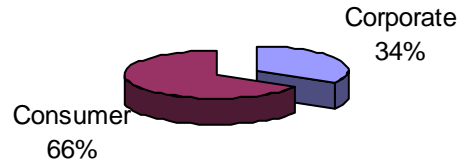


Figure 1: Demographics – Corporate vs. Consumer Users

Regionally, 97% of respondents indicated they are located in North America.

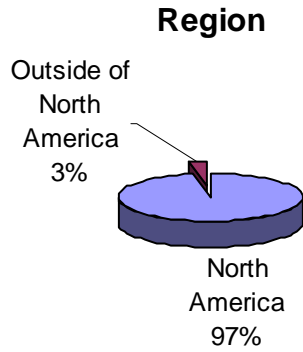


Figure 2: Demographics – Regional Location

In terms of age, 81% of our respondents are between the ages of 25 and 55.

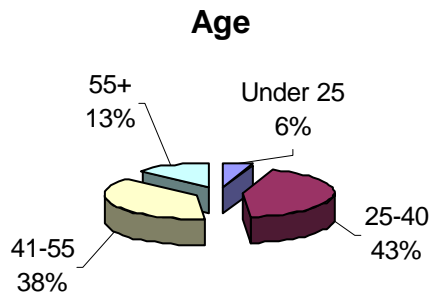


Figure 3: Demographics – Age

3.0 Email Traffic Habits

When asked about the number of emails received and sent per day, the average user indicated that they receive about 94 emails a day and send 14.

How Many Emails do You Receive on an Average Day? Send?			
	Corporate Users	Consumer Users	Overall
Emails Received/Day (Average)	97	93	94
Emails Sent/Day (Average)	23	9	14

Table 2: Email Traffic

4.0 Amount of Spam

According to users, 39% of the email in their inboxes is spam. This percentage was slightly lower (33%) for corporate users, who tend to have more advanced corporate anti-spam solutions in place. Consumer users are averaging 42% spam.

What Percentage of the Email that Makes it to Your Inbox is Spam?			
	Corporate Users	Consumer Users	Overall
Average	33%	42%	39%

Table 3: Spam Traffic

Unfortunately, it doesn't look like this problem is going away. Nearly half of all respondents indicated that they are getting more spam now than they did a month ago. Only about one-fourth have seen a decrease in spam.

Corporate Users: Has Spam Increased or Decreased for You in the Last Six Months?

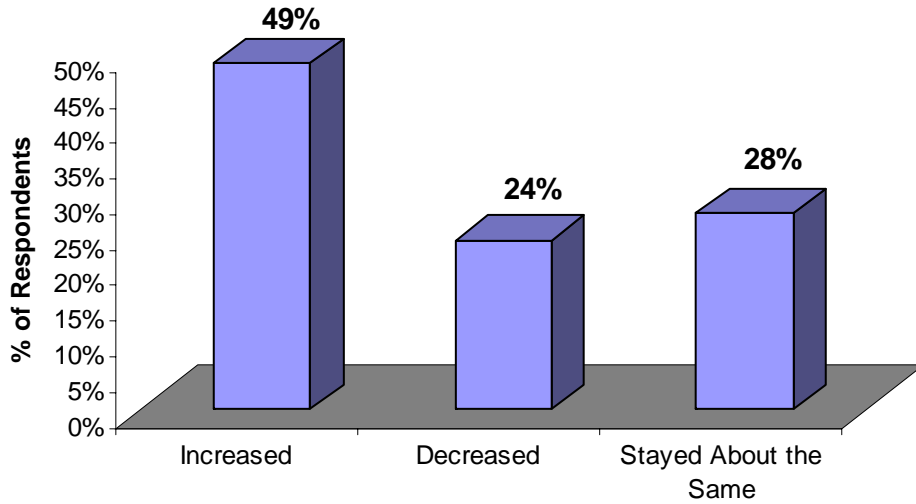


Figure 4: Corporate Users -- Spam on the Rise

Consumer Users: Has Spam Increased or Decreased for You in the Last Six Months?

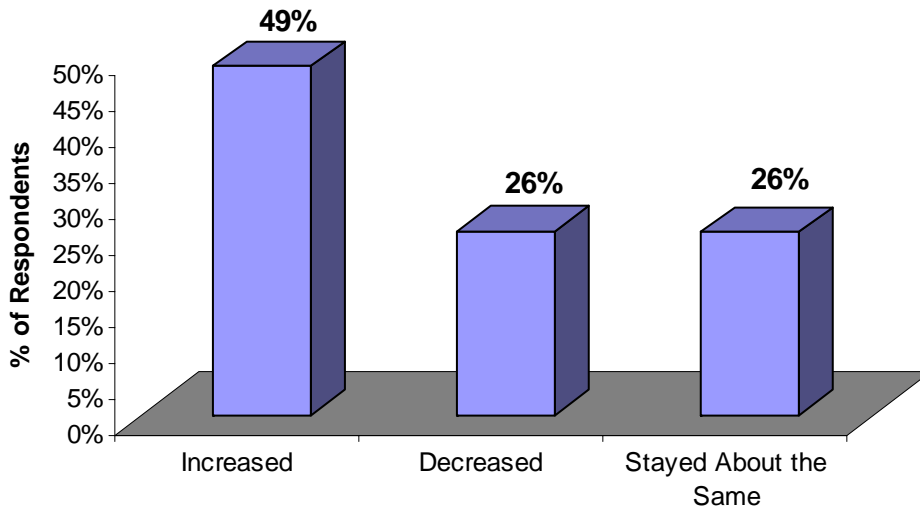


Figure 5: Consumer Users -- Spam on the Rise

5.0 Spam Management Behavior

There are essentially three tools to stop spam:

- Technology
- Legislation
- End-user education

None of these tactics can solve the problem alone. Legislation is a step in the right direction, but cannot be implemented without technology. Likewise, anti-spam filters and other technological approaches can be effective, but no technology will solve the problem if users don't also manage spam appropriately. User education is a key factor to reducing spam.

For instance, a common trick of spammers is to include an “unsubscribe” link at the bottom of a message. Naturally, the recipient will want to unsubscribe from the spammer's list, but clicking on the link—like the one below—is a bad idea.

If you no longer desire to receive coupons , gifts and discounts , visit [here](#)

In most cases, clicking the link results in more spam, because it tells the spammer there is a live person with a valid email address. The email address will be tagged as a good one, and probably sold to other spammers. Even worse, the link could lead to a website that installs a virus or spyware.

As shown in Figure 6, more than half (55%) of email users do not yet understand the effects of clicking “unsubscribe” links. Consumer users are more unaware than corporate users—64% vs. 36%.

Do you try to unsubscribe to spam by following the unsubscribe directions of the message?

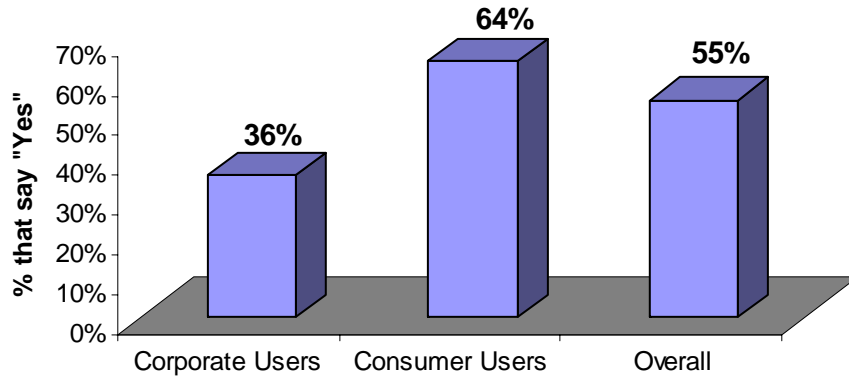


Figure 6: "Yes," I Follow the Message's Directions to Unsubscribe

Another major mistake email users often make is opening spam and clicking on links within the message. Once again, this can lead to spyware and viruses. At the very least, it tells spammers that they've found an active email account. Surprisingly, 39% of the users surveyed have clicked on a spam link before.

Have You Ever Clicked on a Link within a Spam Message (other than unsubscribe)?

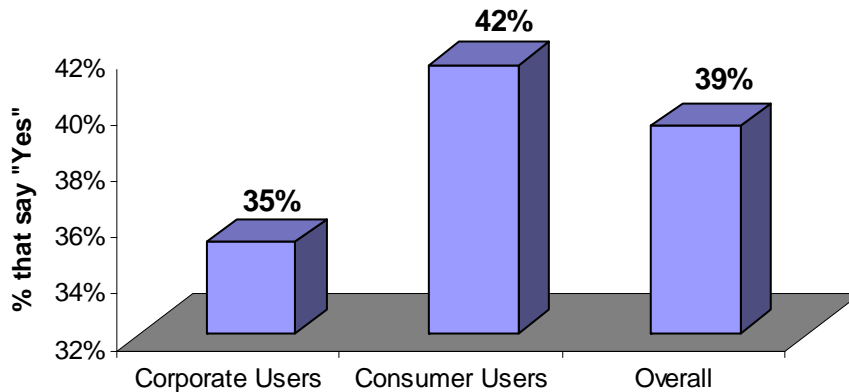


Figure 7: "Yes," I've clicked on a Link within Spam

Naturally, clicking on links within spam messages and trying to unsubscribe will only result in more spam. When we break out the respondents who have these bad spam

habits from those that don't, we see that more spam does in fact result from "unsubscribing" and clicking on links.

Do you get more spam now than six months ago?

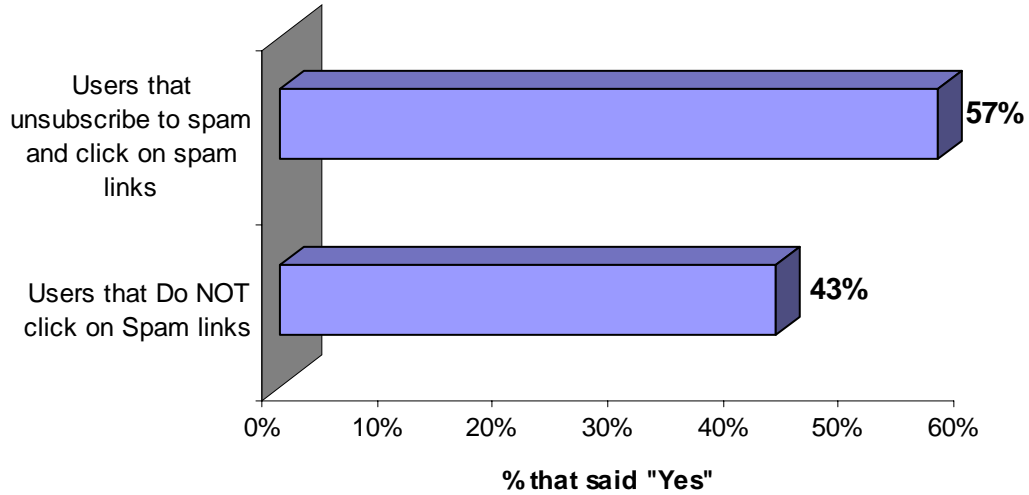


Figure 8: Clicking on Spam Links Results in More Spam

Figure 9 and Figure 10 shows how these results differ between corporate and consumer users.

Corporate Users: Do You Get more spam now than six months ago?

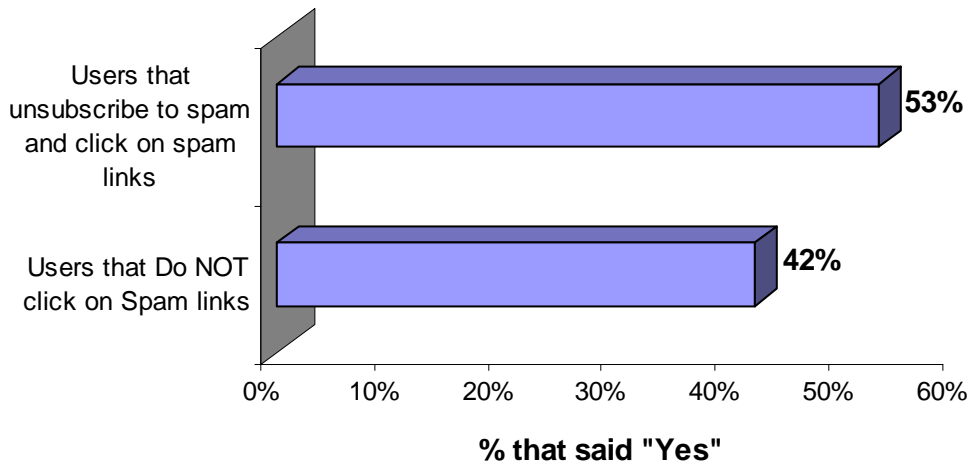


Figure 9: Corporate Users: Clicking on Spam Links Results in More Spam

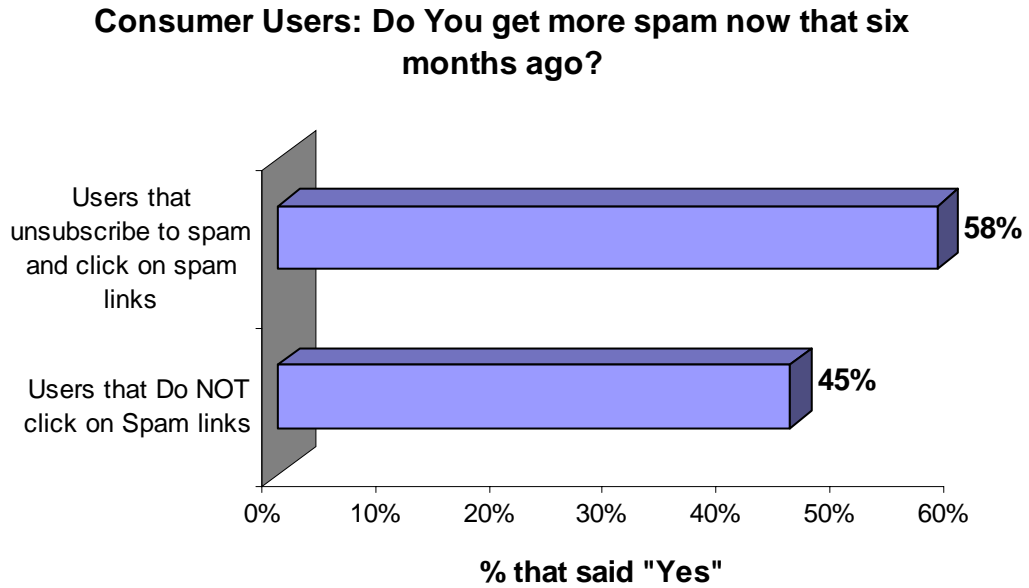


Figure 10: Consumer Users: Clicking on Spam Links Results in More Spam

Spam is a growing problem because it works. It probably wouldn't exist if people didn't open the messages and buy the products/services advertised by them. In fact, our results show that a lot of people (11%) *are* buying items because of spam.

Have You Ever Purchased a Product/Service as a result of Spam?

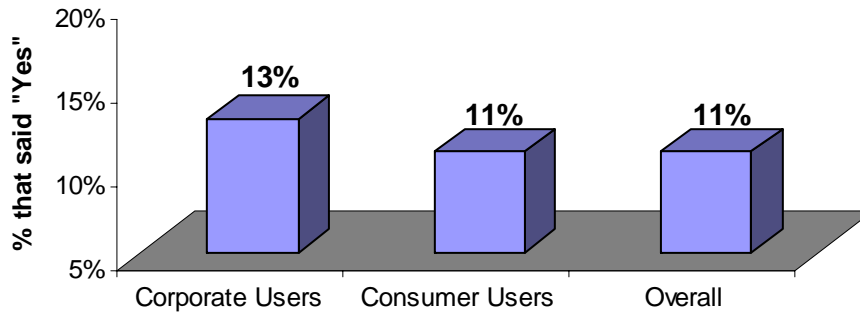


Figure 11: "Yes," I purchased items because of Spam

Many of the deals advertised in spam messages are too good to be true—and they are! In fact, 9% of respondents indicated they've lost money to an email scam.

Have You Ever Lost Money to an Email Scam?

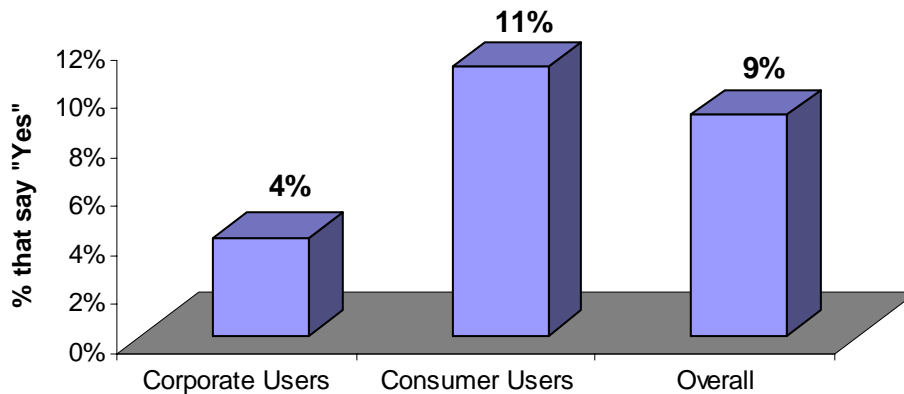


Figure 12: "Yes," I've Lost Money to an Email Scam

6.0 Types of Spam

Spam comes in many shapes and sizes. According to our respondents, the three most common types of spam are:

- Ads for prescription drugs
- Pornography
- Financing ads

The results to this question didn't differ much between corporate and consumer users. Corporate users are getting less gambling advertisements, but more prescription drug ads, however.

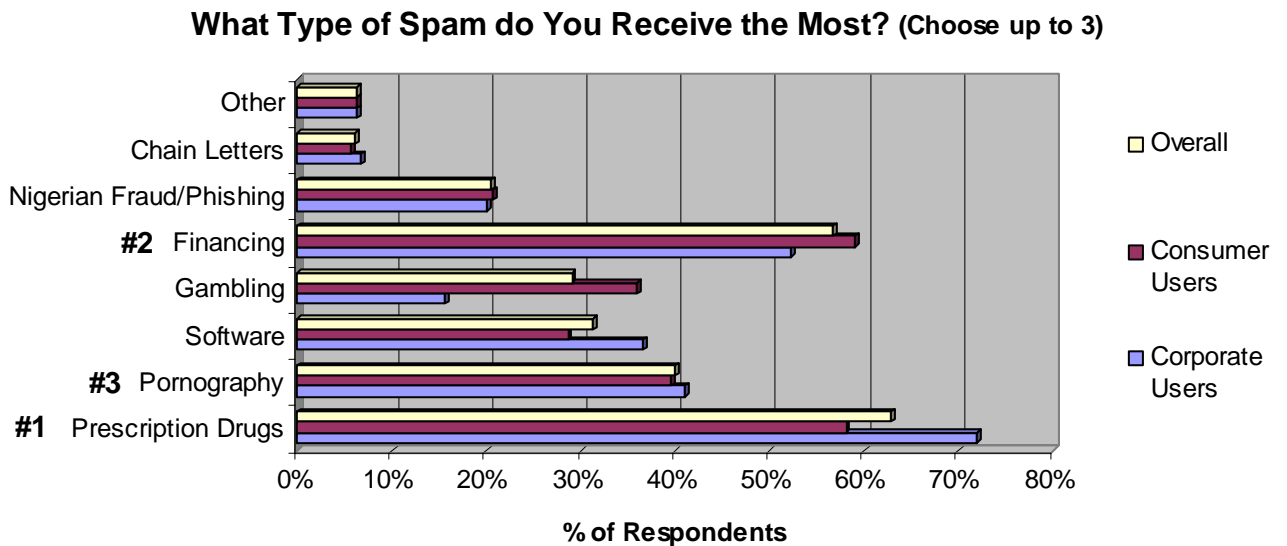


Figure 13: Types of Spam

We also asked users to anecdotally tell us about the strangest spam messages they've ever received, and we weren't disappointed. Here are some of the most common responses and some of the strangest:

- "Marriage proposal."
- "Proposition for me to sell my pet for \$5500 and ship it to South America for a veterinarian to run tests on it."

- “Invitations for helping a wife of Nigerian president in a court suit for large remuneration.”
- “Badly written spam from a company purporting to sell anti-spam solution and sympathizing with me over volume of spam we all receive.”
- “No source URL, no text, no message at all.”
- “The ones with the multitude of words spelt incorrectly.”
- “That I had won the British lottery, but that I should not tell anyone about it.”
- “Bored housewives want to meet you.”
- “Christian debt relief.”
- “Here is your new virus you requested.”
- “Sing guaranga. Just said that. Cool.”
- “Spam messages with random snippets of poetry, etc. within the message.”
- “Someone with my last name had died and left a small fortune in an over seas bank and would I send them some money so they could help me receive the fortune.”
- “Phishing scam, promising me \$10,000. Saying my great Uncle died in a plane crash.”
- “They wanted a picture of my buttocks.”
- “Prescription that led to a pornographic website.”
- I'm not sure but I'm wearing out my delete button!!!

7.0 Effects of Spam on User Behavior

All of this spam is having an effect on users' behavior. 11% of respondents now use email less as a direct result of spam. Even 9% of corporate users, who rely on email the most, said they are using email less because of spam.

Has Spam Led You to Use Email Less?

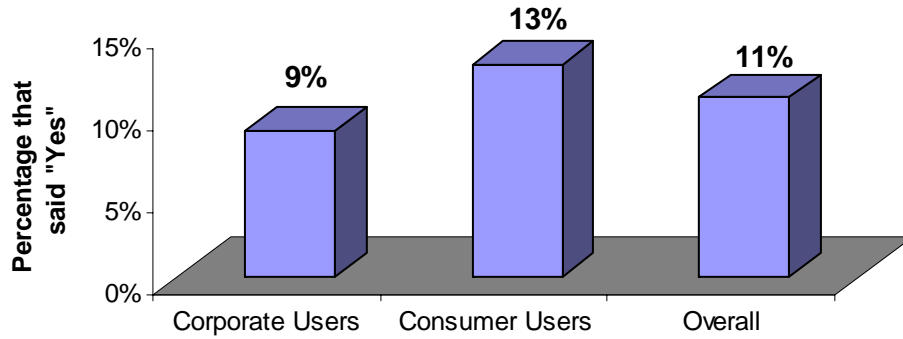


Figure 14: "Yes," Spam has led me to use Email Less

The effects of spam don't stop at email. 9% of users indicated that they now use the Internet in general less as a result of spam.

Has Spam Led You to Use the Internet Less?

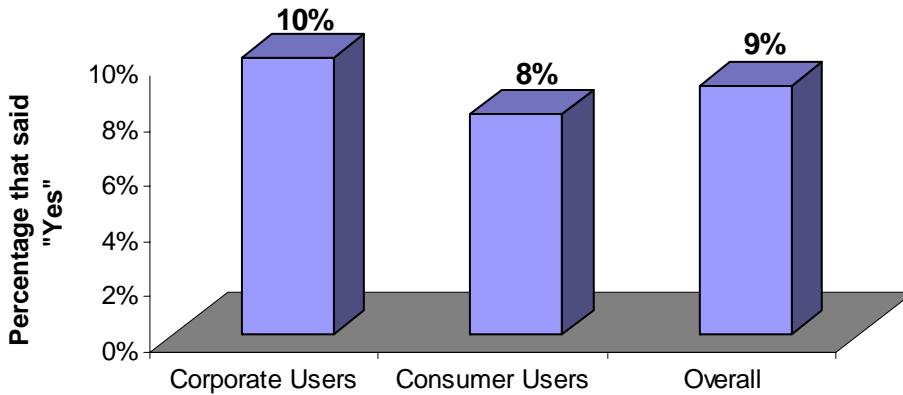


Figure 15: "Yes," Spam has led me to use the Internet Less

An increase of phishing attacks and other email scams has driven one-third of users away from communication with banks and other financial institutions via email.

Do You Avoid Email Communication with Your Financial Institutions because of Email Security Fears?

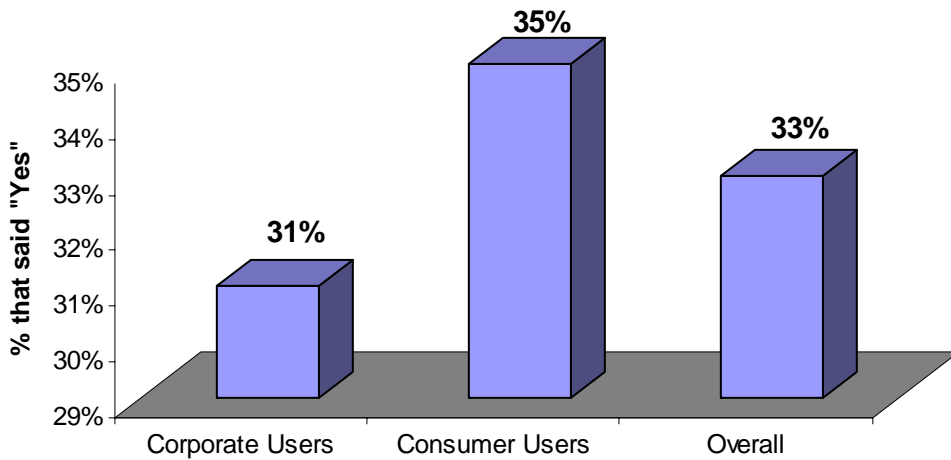


Figure 16: "Yes," I Avoid Using Email to Communicate with my Financial Institutions

8.0 IM Spam

Not only is spam increasing in volume, but it is also expanding in its form. Spam over Instant Messaging (IM) applications is beginning to take hold. 18% of respondents indicated that they've been the recipients of an IM Spam (Spim) in the last 3 months.

Have You Received Any Spam over IM in the Last 3 Months?

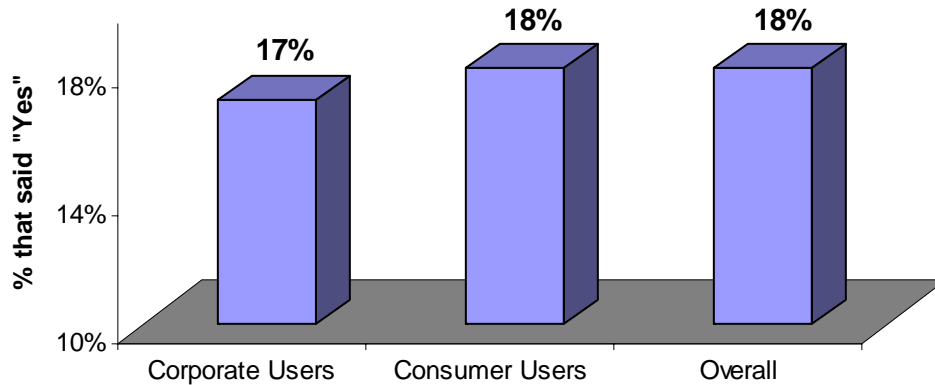


Figure 17: “Yes,” I’ve received IM Spam in the last 3 months

9.0 Conclusion

Based on these results, it is safe to conclude that spam is as much of a problem today as it has ever been, despite all the advances in anti-spam technology. Our results show that the average user receives a staggering 37 spam messages a day, and this number is rising for about half of the email using population.

One of the key reasons spam continues to be a problem is a lack of end user education. The best way to manage spam is to simply delete it unopened, yet nearly two-thirds of consumers still try to unsubscribe from spam by opening the messages, and following the links within them. Even more surprising is the fact that 11% of users have actually purchased a product/service from a spam message. Unfortunately, many of those transactions don’t turn out very well—9% of users have lost money to email scams. With those kinds of statistics, it’s no wonder spammers are more aggressive than ever.

Not only is spam growing in quantity, it is also growing in severity. 1 out of 5 users indicated that they *frequently* receive phishing emails and/or email fraud attempts (i.e. Nigerian fraud email). In addition, many spam messages now embed links to malicious

spyware and virus downloads. Brace yourself for the next form of spam—IM spam (known as spim). 18% of users have already experienced spim first hand.

All of this spam is having an adverse effect on email users. 11% are now using email less, and 9% are using the Internet in general less. A third are too afraid to communicate with banks via email because of all the phishing attempts and other security threats that exist today.

So, where do we go from here? The spam problem will need to be solved on three fronts: technology, legislation, and education. The industry has made great strides technologically. Tougher legislation and punishment is also beginning to take hold. It is evident that we must put the same level of effort into end-user education, which can ultimately be more effective on its own than technology and legislation combined.

Appendix A – Original Survey Form

Email Traffic

1. How many emails do you receive on an average day?
___ emails/day
2. How many emails do you send on an average day?
___ emails/day
3. What percentage of the email that makes it to your inbox is spam?
___ % is spam
4. Has the amount of spam that makes it to your inbox increased or decreased in the last six months?
___Increased
___Decreased
___Stayed about the same
Comments? _____

Spam Management Habits

5. Do you try to unsubscribe to spam messages by following the unsubscribe directions of the message (usually by replying to the message or clicking an unsubscribe link)?
___Not Sure
___Yes
___No
Comments? _____
6. Have you ever clicked on a link within a spam message (other than unsubscribe)?
___Not Sure
___Yes
___No
Comments? _____

Effectiveness of Spam

7. Have you ever purchased a product or service as a result of unsolicited commercial email?
___Not Sure
___Yes
___No
Comments? _____

8. Have you ever lost any money to an email scam?
 Not Sure
 Yes
 No
Comments? _____
9. What type of spam do you receive the most (check up to three)?
 Ads for prescription drugs
 Ads for pornography
 Ads for software
 Ads for gambling
 Ads for financing
 Phishing scams and/or Nigerian fraud emails
 Chain letters
 Other _____
Comments? _____
10. What is the strangest spam you've ever received?

Consequences of Spam

11. Have spam problems led you to use email less?
 Not Sure
 Yes
 No
Comments? _____
12. Has spam led you to use the Internet less?
 Not Sure
 Yes
 No
Comments? _____
13. Have you received any spam over IM in the last three months?
 Not Sure
 Yes
 No
Comments? _____
14. Do you avoid using email to communicate with your financial institutions because of email security fears?
 Yes
 No
Comments? _____