

ISPs and Spam: The Impact of Spam on Customer Retention and Acquisition

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Section 1

Introduction

The Impact of Unsolicited Commercial E-Mail

Unsolicited commercial E-mail (UCE), commonly referred to as spam, is growing rapidly, finding its way to desktops both in the home and in the office. The impact on ISPs is significant, both from a cost and customer service perspective. Businesses are also being subjected to spam attacks, with the resultant strain on their infrastructure and productivity.

Spam is commonly compared to paper junk mail. The difference is that third-class mailers pay a fee to distribute their materials, whereas with spam the recipient or ISP pays. These payments are in the form of additional bandwidth, disk space, server resources, and lost productivity. Furthermore, as more people start using the Internet, if spam continues to grow at the current rate, the spam problem may become unmanageable. Customer ire is certain to increase with that onslaught and ISPs will be faced with additional customer service costs as they seek to control the flow of unwelcome E-mail while dealing with unhappy customers.

Increasing Internet Access

GartnerGroup forecasts an aggressive growth rate for total online services, including both consumer and business users. Table 1 shows the history and forecast for Internet access via the ISPs and online service providers (OSPs).

Table 1. Online and Internet service provider forecast—active seats (thousands), North America

	1997	1998	1999	2000	2001	2002	CAGR(%) 1997–2002
Consumer	19,620	24,472	30,590	37,798	45,358	49,893	21%
Business	21,704	32,232	41,902	54,472	70,814	92,058	34%
Total	41,324	56,704	72,491	92,270	116,171	141,951	28%

Source: GartnerGroup

Millions will be getting on the Internet, and of those, the vast majority will use E-mail. This, in turn, will attract the spammers, ever mindful of new opportunities to exploit. Spam campaigns can be expected to expand dramatically, both in terms of the number of mailings and the number of recipients per mailing.

Internet Users and Their Perception of Spam

Although it is clear what damage spam can cause, it has been less clear how Internet users feel about spam. It is generally assumed that they dislike it, but how strong is that feeling? Will they take action to avoid it? Do they expect others to regulate or ban it? Whose responsibility is that? What role do they see for the ISP? Would they see the value of an ISP software filter to prevent UCE?

GartnerConsulting developed and implemented a research study to explore users' experiences on the Internet, specifically with regard to UCE. We were also interested in gauging how far users would go to avoid UCE.

Survey Methodology

In November 1998, GartnerConsulting posted an online survey for Internet users. Users were invited by their respective ISPs to participate in the research study and were sent to a unique and secure Web site to fill out the survey. The ISPs sent invitations by E-mail or posted the invitations at their Web site. GartnerConsulting recruited willing ISP participants from a list of major ISPs. Data collection ended in March 1999 with more than 13,100 responses collected.

Section 2

Respondent Profiles

Who Participated?

Following are the basic demographics of the survey sample:

- The largest age group consists of those 40 to 54 years of age.

Under 18	19-24	25-39	40-54	55-69	70+
1%	4%	27%	44%	19%	3%

- Thirty percent have at least one child under 18 who uses the computer.

Computer Usage and Internet Access

For most of the respondents (62 percent), their primary use of the computer is personal. The rest use it for work-related tasks. These people include those who own their own business (21 percent), those who bring work home from the office (7 percent), those who access the computer at work (3 percent), and those who telecommute (2 percent).

The actual hours spent per week on the Internet range from relatively low Internet usage of up through five hours (27 percent), to medium usage of six to 10 hours (29 percent), to relatively high usage of 11+ hours (45 percent). Use of E-mail is overwhelmingly the major activity on the Internet (64 percent of total responses), with surfing and conducting research coming up a distant second and third (13 percent and 12 percent, respectively).

Which ISPs the Respondents Use

Respondents were asked which ISPs they use and, if they subscribed to more than one, which they would characterize as their primary ISP. ISPs with the heaviest representation include America Online, AT&T WorldNet Service, Concentric, Juno, MSN/Microsoft, and Netcom (now Mindspring). Thirty-eight percent had been with their ISP for one year or less, with most of those having switched from another ISP. Thirty percent had been with their ISP for three years or more, representing the segment of loyal long-time Internet users who stick with one provider as long as there are no major disappointments with the quality of service or excessive costs.

Section 3

Experience With Spam

Table 2 shows the breakout of the number of UCE mailings received per week. While 91 percent of respondents reported that they receive at least one piece of spam per week, only 31 percent received eleven or more pieces per week. Even though this sample contains relatively few heavy duty spam recipients, the users' reaction to this spam and their readiness to take action should those provocations continue was quite strong. See sections 4 and 5 of this report for more details on user attitudes and behavior with regard to spam.

Table 2. Average number of UCEs received per week

Average Number of UCEs	Percent of Responses
None	9
1-5	40
6-10	20
11-20	17
21-35	9
36-50	3
51-100	1
100+	1

Frequency of Spam Mailings

One significant finding was the direct relationship between length of time with an ISP and the amount of weekly spams received. The longer a subscriber stays with an ISP, the greater the probability of getting spammed, as indicated in Figure 1. Furthermore, the volume of weekly spams increases with length of ISP service, as seen in Figure 2.

Figure 1. Spam and length of time with ISP

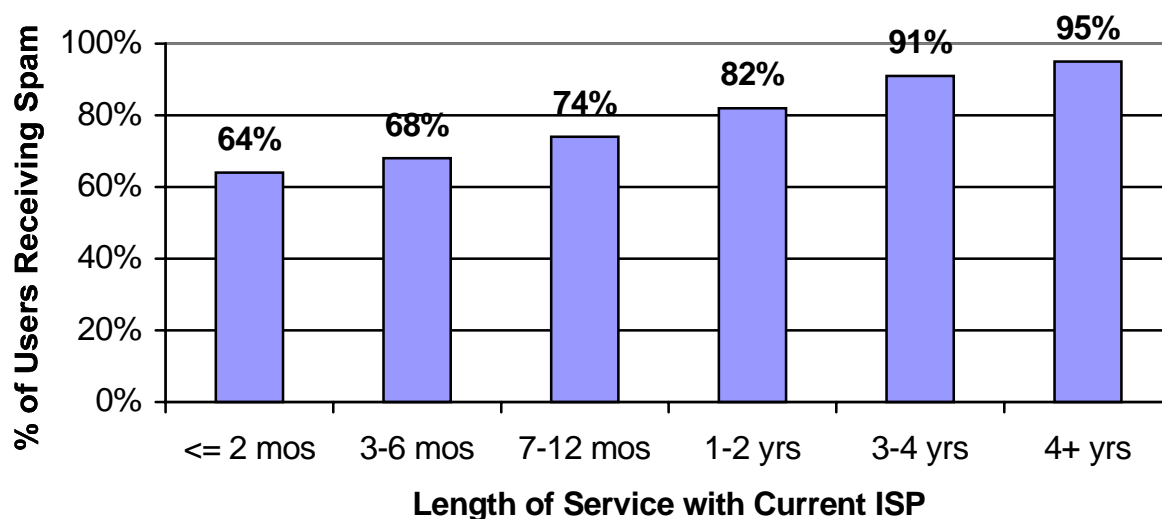
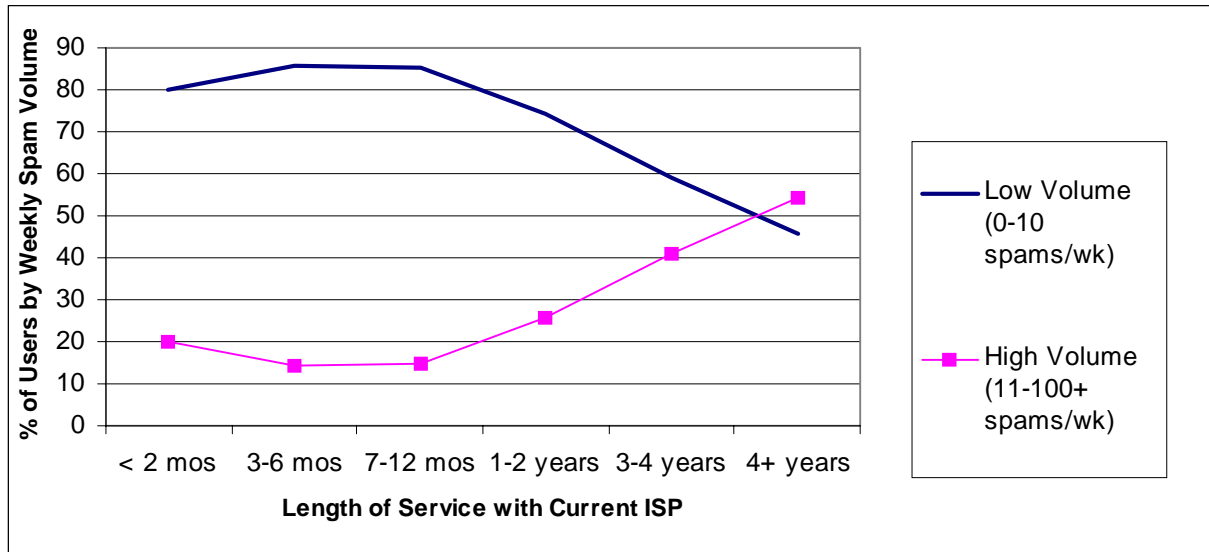


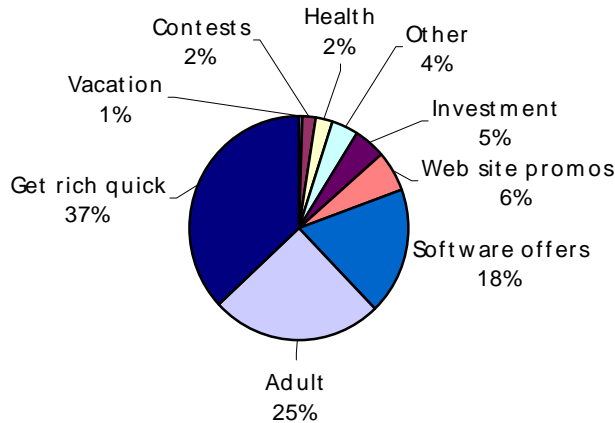
Figure 2. Spam volume and length of ISP service



Types of Spam

As shown in Figure 3, the two most frequent types of spam received were characterized as “get rich schemes” and “adult.” Other types included health promotions, software offers, investment information, and Web site promotions. There is particular sensitivity by females to mailings falling into the adult category. When asked why they dislike spam, 23 percent of females, compared to 13 percent of males, stated that they found it offensive. With the growing ranks of females joining the Internet community, this situation presents a problem waiting to be solved.

Figure 3. Types of spam



Respondent Definitions of Spam

For purposes of this survey respondents were asked to use the definition of spam as “Unsolicited Commercial Email.” They were also asked about what other types of email they consider to be

spam. Table 3 shows their responses. Please note that the total of percents exceeds 100%. This is because respondents were allowed to choose more than one definition.

Table 3. Definitions of spam

Definition	Percent of Responses
UBE (Unsolicited Bulk Email)	74
UCE (Unsolicited Commercial Email)	72
Chain Letters	44
Duplicate Postings	22
Pop-Up Ads	18
Virus Warnings	11
Banner Ads	10
Jokes	6
ISP Product/Service Information	6

Section 4

Attitudes Toward Spam

Clearly, respondents were familiar with spam. Given the fact that many were receiving significant numbers of these mailings, what did they think about it? Not surprisingly, they are overwhelmingly unhappy with it. A whopping 83 percent disliked spam. Table 4 shows respondents' attitudes toward spam.

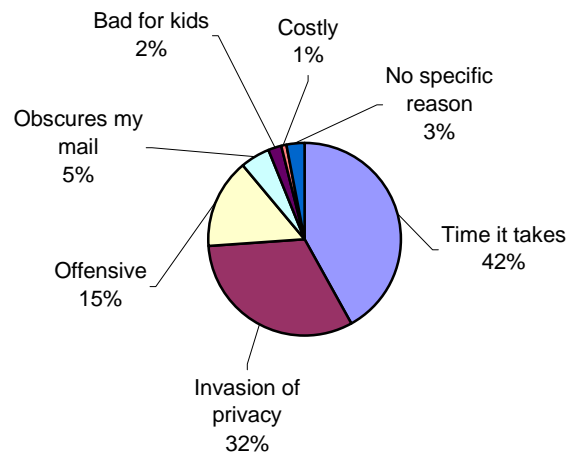
Table 4. Attitudes toward spam

Attitude	Percent of Responses
Like it a lot	1
Like it somewhat	2
Neutral	14
Dislike it somewhat	20
Dislike it a lot	63

Why such strong reactions? Figure 4 below helps explain the sources of these reactions.

Interestingly, unlike the E-mail service providers, who are burdened with significant direct costs in dealing with spam, the end-user apparently does not perceive a direct financial impact—only one percent complained about the cost. This makes sense because almost all respondents were paying fixed monthly subscription fees.

Figure 4. Primary reasons for disliking spam



However, 42 percent said that the time it takes them to read and discard spam was their main reason for disliking it. This could be considered an indirect cost to the end-user (“time is money”). In addition, over 30 percent complained that spam constitutes a significant invasion of their privacy, and 15 percent found it offensive.

Section 5

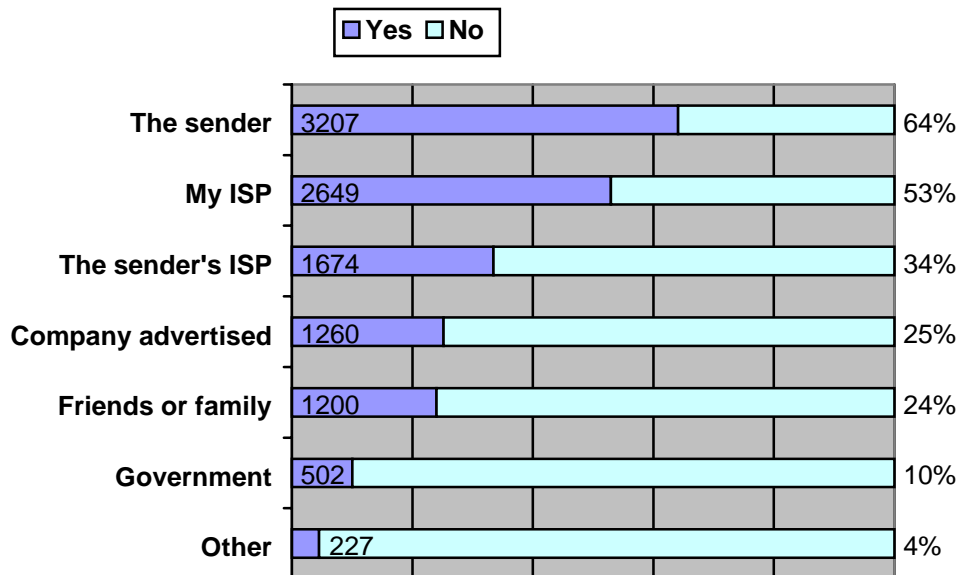
Spam and Churn Rates

Given the widespread antipathy to all manifestations of spam, the obvious question is whether people suffer silently or are prepared to take action, such as changing ISPs or even opting out of the Internet in order to avoid spam.

Past Churn

Complaining about spam seems to represent the first line of defense. Almost half (44 percent) of the respondents had complained in the past. But to whom? With multiple responses permitted, the sender of the E-mail was mentioned most often, but more than half of the respondents mentioned the user's ISP, and one-third mentioned the sender's ISP. A significant percentage of the responses pointed to "friends or family" as the recipient of complaints, which has potential negative implications for ISPs if the complaint included references to the ISP that "permitted" the spam to reach them. Figure 5 shows the targets of the users' complaints.

Figure 5. Recipients of complaints—percent of respondents (multiple response; n=5002)



More than half of the sample had switched ISPs in the past. Not all of this disloyal behavior was attributable to the influence of excessive spamming, but for seven percent, spam was the main reason for switching. Table 5 shows the primary reasons respondents switched ISPs.

Table 5. Top reason for switching ISPs

Reason for switching	Percent of respondents
Access problems	34
Expensive	17
Busy signals	8
UCE	7
Slow speed	7
Bad customer service	6
No longer useful	4
Moved	4
Technical support problems	2
Other	11

We believe that technology will play a major role here in terms of customer satisfaction and, ultimately, customer loyalty. GartnerGroup believes that access problems and the related issues of excessive busy signals and slowness will all be solved as more intelligent call routing systems and better network management tools are developed and used by the ISPs. Customer service and, specifically, how ISPs handle spam, are likely therefore to emerge as competitive differentiators.

Future Churn?

As indicated above, half of the respondents had already switched ISPs, albeit for a variety of reasons. What is their propensity to change ISPs in the future? When asked if they would leave their ISP in order to reduce the flow of spam they received, 36 percent answered in the affirmative, not an insignificant subset of the sample. But would any of them opt out of Internet participation? An overwhelming 91 percent were sufficiently hooked regarding the value they got from their Internet E-mail activities and therefore would not become Internet dropouts.

As for the 64 percent who would not presently change ISPs in order to avoid spam, what amount of incremental spam would send them over the edge to take such action? Table 6 shows the answers to this question. With a 50 percent increase in spam, approximately one-fifth would then be ready to switch, and if the amount of spam doubled, another 18 percent would follow suit. Given that over 60 percent were receiving fewer than 11 mailings per week, it apparently wouldn't take much to start that exodus.

Table 6. How much additional spam would cause user to change ISPs

Increase in spam	Percent of Responses
1.5 X	22
2 X	18
3 X	9
Won't change	17
Don't know	34

Spam-Reduction Services and Customer Acquisition

Most respondents would look favorably at an ISP that offered a spam filtering service as part of its program. Three-quarters of the respondents would see that as an advantage when considering a new ISP. In fact, 24 percent of the respondents would be willing to pay an incremental for such a service. Of those who are willing to pay, Table 7 shows how much they would be willing to pay per month for a spam filtering service. Seventy percent of those willing to pay would pay \$1 or more per month for the service.

Table 7. How much users would pay per month for a spam filtering service

Monthly fee	Percent of Responses
\$.50	21
\$1.00	36
\$2.00	21
\$5.00	12
\$10.00 to \$20.00	1
Don't know	9

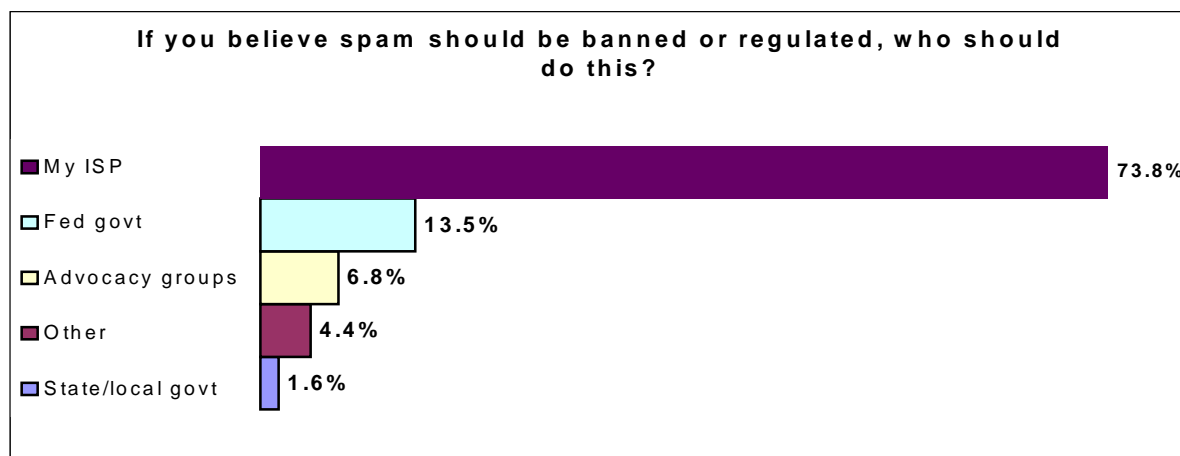
Section 6

Role of the ISP

Although one-quarter of the respondents believe there is nothing to be done to control spam—other than deleting it oneself—40 percent favor banning it and 25 percent want it regulated.

For those favoring banning or regulation, ISPs are looked upon as the principal spam regulator by almost 74 percent of respondents, as opposed to government agencies or advocacy groups. Their preferences are shown in Figure 6 below.

Figure 6. Who should control spam for the end-user



If the ISP is the preferred spam regulator, how do users rate its performance? Unfortunately for the ISPs, not well. Only 40 percent characterized the ISPs as doing a good job. Table 8 shows how the respondents rated the ISPs in their efforts to limit spam.

Table 8. ISPs' success at limiting spam

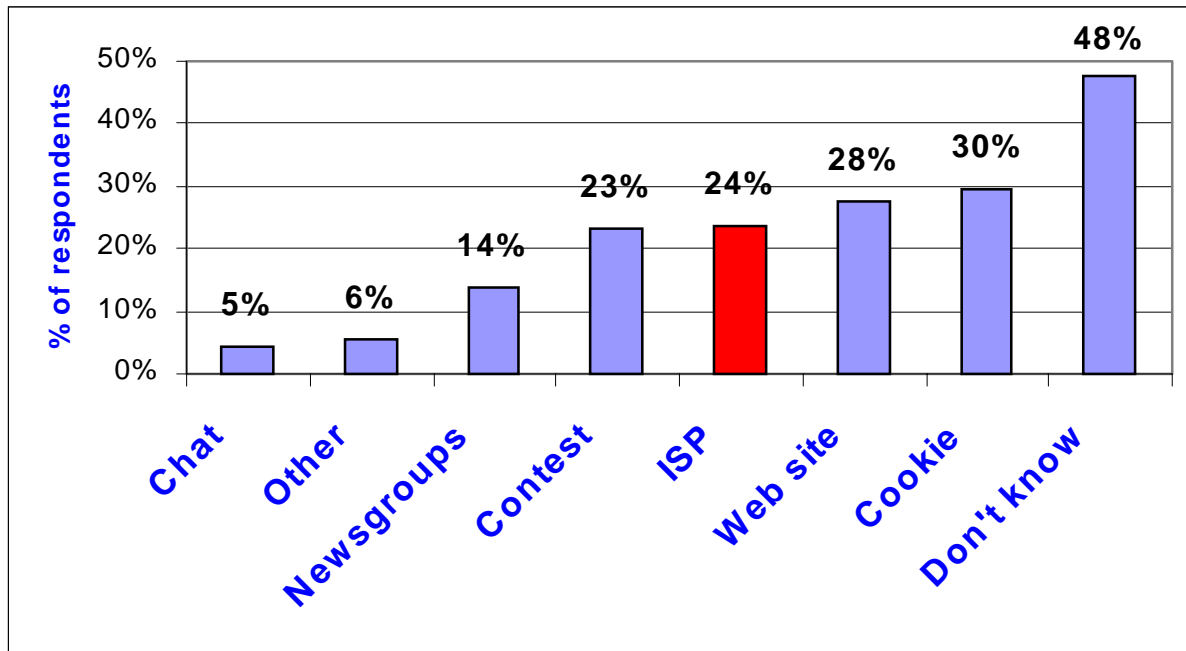
ISP Performance	Percent of Respondents
Very poor	15
Poor	18
Average	27
Good	20
Very Good	20

User Perception of ISP's Relationship with Spammers

One of the more surprising results of the study is the number of respondents who think that the ISP is responsible for providing E-mail addresses to spammers. As shown in Figure 7, 24 percent of respondents believe this. This is especially noteworthy when you consider that 30 percent list "cookies" as a source used by spammers (this is also untrue and technically impossible) and that 48 percent say they don't know how spammers collect addresses. It is clear

that user misperceptions about how spam originates and user expectations that the ISP be proactive in protecting them against it (as shown in the previous section) make it imperative that ISPs do a better job of educating their subscribers about spam.

Figure 7. How spammers obtain end-user email addresses (Note: multiple responses allowed)



Potential Financial Impact of Spam on ISPs

There are three areas of an ISP's business that are affected by spam and that potentially affect the ISP's profitability. In order to understand the quantitative impact on ISPs, we have made certain assumptions in the three areas described below. They are intended mainly to provide an estimate of monthly costs the ISP will incur if it does not deal effectively with spam. Based on the survey data, we are using 7 percent as the percent of total monthly churn due to spam.

- **Churn rate costs:** Lost revenue due to customer defections and new customer acquisition costs incurred to replace customers who defected.
- **Infrastructure costs:** Hardware costs and software development costs.
- **Personnel costs:** Customer support personnel and system administrators.

The following set of assumptions describes a representative ISP. These are the result of discussions with numerous ISPs.

- Subscriber base of 1 million.
- 4.5 percent of total churn/month = 45,000 subscribers/month.
- Average subscription revenue = \$19.95/month.

- Defecting customer leaves at the end of the month.

Churn Rate Costs

Table 9 sums up the total “losses” that a one-million-subscriber ISP experiences as a function of the sum of lost subscriber revenues and total acquisition costs to replace those subscribers.

Table 9. Financial impact of churn

Month	Cumulative Lost Subscriptions	* Monthly Fee	= Lost Subscription Revenue	+ Monthly Acquisition Costs	= Total Impact
Jan	0	19.95	0	236,250	236,250
Feb	3,150	19.95	62,843	236,250	299,093
March	6,300	19.95	125,685	236,250	361,935
April	9,450	19.95	188,528	236,250	424,778
May	12,600	19.95	251,370	236,250	487,620
Jun	15,750	19.95	314,213	236,250	550,463
July	18,900	19.95	377,055	236,250	613,305
Aug	22,050	19.95	439,898	236,250	676,148
Sept	25,200	19.95	502,740	236,250	738,990
Oct	28,350	19.95	565,583	236,250	801,833
Nov	31,500	19.95	628,425	236,250	864,675
Dec	34,650	19.95	691,268	236,250	927,518
TOTAL			\$4,147,605	\$2,835,000	\$6,982,608

Source: GartnerGroup

On the revenue side, ISPs offering filtering services have a competitive advantage compared to ISPs that don't offer such services. This survey indicates that current spam-sensitive subscribers will be drawn to ISPs with these services. New users accessing the Internet will select their ISP based on a variety of factors, one of which is certain to be the promise of a spam-free environment. ISPs should realize increased revenues from attracting “incremental” new customers they would not have ordinarily gained.

Infrastructure Costs

Assuming a total of between \$5 million and \$10 million of telecommunications and computer hardware, the hardware-related incremental costs of managing spam are approximately 2.5 percent, or between \$125,000 and \$250,000 per year.

In the area of software development, we assume a dedicated software engineer at a fully burdened cost of \$150,000.

Personnel Costs

If we assume between three and five additional customer support representatives are needed to handle spam questions and complaints, at fully burdened salaries of \$50,000 per year, the total costs are between \$150,000 and \$250,000.

Furthermore, assuming an additional system administrator on board to handle spam-related problems, the fully burdened cost is an additional \$75,000.

ISPs Hold the Key

In our discussions with leading ISPs, all saw spam as a serious problem, both in technical and financial terms. Few, however, were aware of its impact on customer satisfaction and loyalty. These findings indicate how much spam is disliked and the extent to which the ISPs are seen as holding the key to solving the problem.

Section 7

Summary

Key findings of this study are:

- There is widespread and intense dislike of spam among Internet E-mail users—users resent the time it takes to process the mail, see it as an invasion of privacy, and find it offensive.
- The longer a subscriber stays with an ISP, the greater the probability of getting spammed and the greater the amount of spam likely to be received.
- Some users have already switched ISPs because of spam and more are ready to switch, particularly if the flow of spam increases.
- Of those who leave their current ISP as a result of excessive spam, the vast majority will sign up with another ISP in order to continue their E-mail activities.
- A large percentage of users hold the ISP responsible for the spam problem and few think the ISPs have done a good job of controlling it.
- A high percentage of users would favor ISPs that offer spam-filtering services.
- Approximately one-quarter would be willing to pay a premium for an effective filtering service.
- Internet access continues to have high growth rates.
- ISPs and E-mail service providers are proliferating at the same time that industry consolidation is occurring, all of which leads to greater competition for the Internet customer.
- Offering a spam-free E-mail experience will help differentiate the winners from the losers among ISPs.