Brockmann & Company

The Problem With Email

Is There a Link Between Less Spam and Superior Business Performance?

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Introduction

What's wrong with email?

Email is… many things to many people, but for business, it is a critical correspondence, file transfer and notification service. For companies of all sizes, email generated from outside the corporation represents 68% of all email messages.

Email is consistently recognized as the most important communications service affecting job performance in all manner of organizations, all manner of industries and all manner of roles: 50% more important than mobile voice services; 2 times more important than desktop telephone service; 10 times more important than faxmail. This simple, robust and flexible computer and network application has managed over the course of two and a half decades to really change the way business gets done.

With all of that said, email as a mainstay of business has plenty of room for improvement. This Brockmann & Company study of nearly 500 business people shows that although email is very important to virtually all, it is not a very satisfying experience.

Table 1 – The Importance – Satisfaction gap.

Very Important / Very Satisfied	Respondents
Email is very important to the success of my business	83%
I am very satisfied with my email experience	21%

Among the top two factors most often cited as needing improvement – mobile email services and greater spam control – only better spam control affects both the desktop and the mobile user experience. This report investigates the link between business performance levels and the costs and benefits of better spam control.

This report also introduces the 'Spam Index,' a simple proprietary method for measuring improvement in spam control systems, or comparing spam control performance with peers and competitors in industry. In this report we also draw a link between the achievement of lower spam levels and higher business performance.

Defining 'spam'

To spam is to "indiscriminately send unsolicited, unwanted, irrelevant, or inappropriate email messages, especially commercial advertising in mass quantities. Noun: electronic "junk mail." [1]

[1] www.tecrime.com/0gloss.htm.

Table of Contents

The Importance of Email

Top findings:

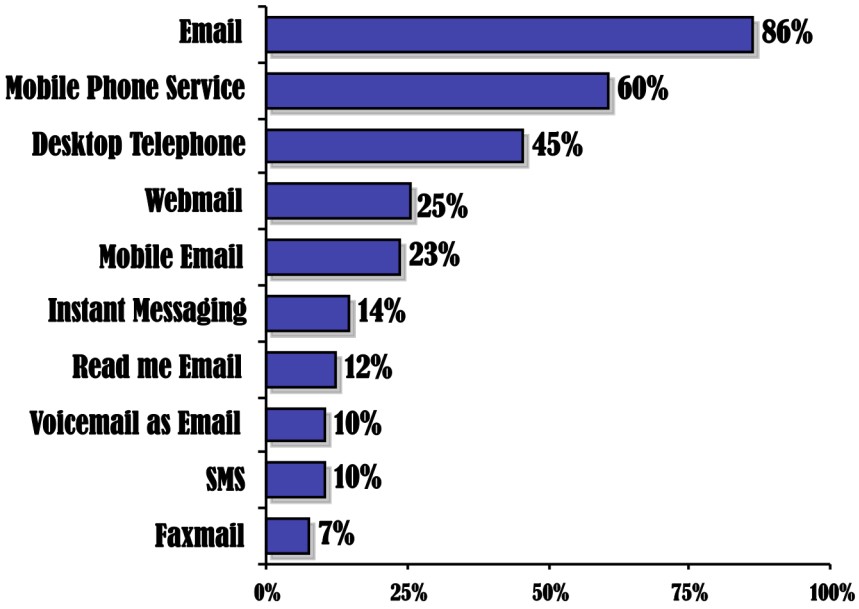
- 86% of respondents defined email as very important to their job performance
- Respondents get an average of 73 messages every day
- 68% of business email is originated from outside the organization
- Despite the best efforts of the software industry, spam still counts for 15% of business email

Email is The Most Important Business Communications Service

Figure 2 below shows that email is by a large margin, the most important business communications application in the pantheon of communications services. Email is 50% more important than mobile phone service and 2 times more important than desktop phone service.

It is not surprising that email is very important to four out of five respondents. After all, the research business depends on email, the web and the Internet. Our respondents' invitation to participate was delivered via email. We collaborated with industry experts in other time zones conveniently over email, and we used email to invite our global readership to download it.

Figure 2 – Some business communications services are more important to more people's job performance than others.



At the heart of it, email is a time-shifting service: I can initiate the dialog at my convenience and you can respond at yours. Fifteen years ago, research this way was not practical. No doubt, many other businesses, work flows and business processes are similarly improved, and that universal degree of pervasive value, especially compared to real-time services such as mobile phone and desktop telephony is what is so surprising.

It is also interesting to consider these rankings given organizations invest a typical $500 per desktop telephone, and that most business users (see First Communications) have their mobile phone bills reimbursed by their employers, a further investment often exceeding $500/year.

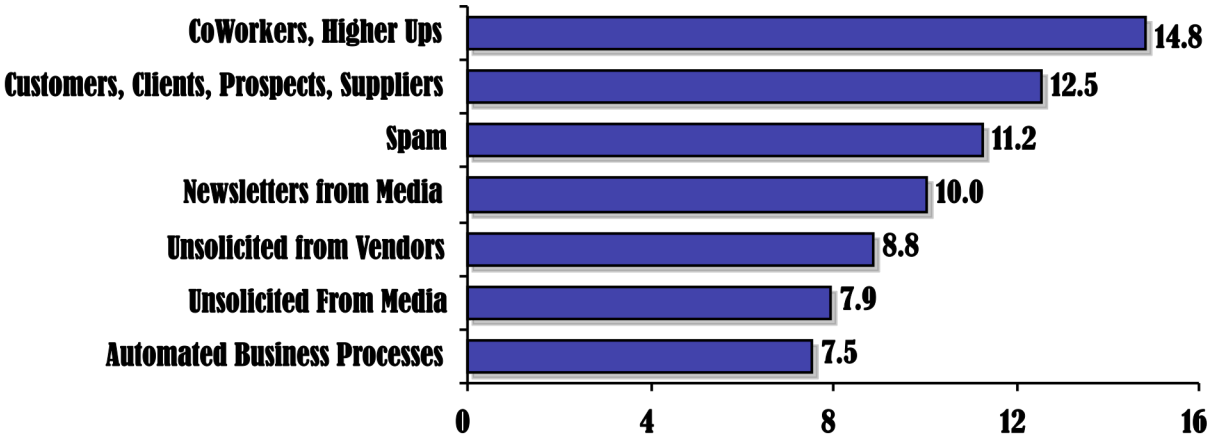
Given the comparatively low license (often less than $100/user) and monthly cost of email software and services investment is clearly *not* an indicator of communications service importance to business success.

Email is a Very Frequent Communication; Spam is a Large Share of it

This is something that mobile email users have known for some time. Emails are frequently and somewhat randomly delivered. They know because they often configure their devices for vibration mode, so that every incoming message receives a speedy disposition most often at the moment of stimulation. As it stands today, users get an average of one email every 6.5 minutes. That's 9 messages over the lunch hour and 73 over the course of an average workday.

Figure 3 below shows the quantities of daily messages from each of the key sources. Figure 3 also shows how poorly the currently available anti-spam solutions really perform. Overall, spam still accounts for 15% of messages reaching business users and is the third largest source of email.

Figure 3 – Users get an average of 73 email daily from these sources. 68% are from outside the organization.



As a communications media, email is very much an inter-company communications service since 68% of all messages originate outside the firm. Email is also a notifications service, since 33% of messages are news from media, automated business processes and because notification accounts for an estimated half of the messages from coworkers. Although the volume of messages generated from automated business processes is surprisingly high (10%) the volume generated by media – both newsletters and unsolicited - was even more surprising (25%).

The Spam Index

Top findings:

- Everyone wastes 25 hours/year dealing with spam
- 27% know somebody who had been 'duped' by a phishing attack
- Average most valuable email is $11.86 million
- 36% of organizations have lost business because an email did not arrive

The costs of dealing with spam are large and pervasive. Consider:

- Spam is the 3rd most frequent source of email in business accounts
- Business users estimate they receive an average of 2,200 spam messages per user per year, despite technologies and services deployed to prevent these from getting through
- Time spent processing that spam wastes 25 hours per user per year
- 27% of respondents know somebody who'd been the victim of a 'phishing' attack

But these productivity and peace-of-mind considerations pale in comparison to the risks and costs of false-positives.

The False-Positive Epidemic

Most respondents can remember the most valuable email they had ever received. Most can even estimate the value of that email, for which we've calculated the average value as being $11.86 million. So, what if the respondent had never received that message? What if the respondent didn't know that they hadn't received it?

That would make the email in question a 'false-positive.' False-positives greatly reduce confidence and satisfaction with email experience. They occur when legitimate email messages (aka ham) are attacked by anti-spam measures. Attacked means deleted, quarantined or edited which are the most frequent administrative policies of anti-spam measures.

Table 4 below is a selection of the most valuable emails our respondents ever received. Is it appropriate for messages like these to be filtered out of the business process simply because they met some content rule defined by an algorithm?

Table 4 – Sample respondent anecdotes about their most valuable email message.

Comment	Email Value	Job Role	Industry
"Purchase order"	$1,000,000	CEO	Telecom
"Booking of a series of ads in a worldwide publication. Booking was requested by client at last minute and had to be confirmed within two days."	$250,000	CEO	Advertising
"The timing of a proposal deadline was altered. We did not think that we had enough time to complete our proposal, until we got the message. The new deadline allowed us to participate and win!"	$1,000	CEO	Software
"It was a price adjustment in our favor"	$10,000	CFO	Utilities
"This was information required by the Federal Government and would prohibit us from future growth if not satisfied."	$120,000	Staff	Finance
"Sensitive and time-critical information for law enforcement."	$1,000	Staff	Public Sector
"In my line of work email is very important to communicate with clients/suppliers all over the world."	$20,000	Manager	Retail

Most anecdotes of most valuable email were purchase orders, negotiation documents or bid proposal documents necessary to win or fulfill terms of commercial contracts. Quite a few were over $20 million. One participant explained that the bid required email submission as the only channel for official bid response.

Clearly technologies that interrupt this workflow, cause retransmissions, delays and lost business in the course of doing its function, are not serving users well at all. They are certainly not serving the business well. In fact, our research shows that in addition to the risk of interfering with commerce, it actually happens that false-positives leads to lost business since **more than a third** of companies have lost business because the email did not arrive, or the recipient did not receive it.

Of course, not all missing messages get trapped in the anti-spam filters. But, since there is a broad email server compliance with mail rejection notices, anti-spam attack and false-positive processing remains the biggest likely source of missing communiqués.

A frequent manual solution to the non-arrival of anticipated email is the resend request. Our research shows that on average, every user participates in at least one message resend request each week. Of course, resend requests are made only for those messages that you know you didn't get or can't find. What about the messages you didn't know you didn't get?

No doubt, some of these might have been 'most-valuable emails' too. That's why we have a false-positive epidemic. False-positives have real consequences: frequent resend requests delays business, and since 36% of firms had lost business because a message didn't arrive that they knew about. This consequence of false-positives could actually be much higher, since respondents don't know about messages they don't know about.

Managing Spam by Measuring Spam

The best way to manage the incidence of spam is to measure it. That way IT departments can deploy technology and other resources to make the process outcomes shrink ultimately to zero.

In the manufacturing industry, the same technique of regular measurement, and systematic process improvement greatly improves process uniformity and therefore the quality of manufactured products. In many factories around the world, quality managers use a 'cost of quality' report that tallies the frequency and cost of correcting each week's defective products. This report rank-orders the most costly issues, upon which engineering and operations resources can be focused, to find the cause and make systematic changes. These reports are the 'window to the process' to improve product quality over time.

With this in mind, Brockmann & Company analyzed the costs of spam for the respondents and developed a simple, proprietary and repeatable yardstick of spam experience, the Spam Index. For the survey respondents, the Spam Index generated scores from zero to a maximum of 1,000 points. Figure 4 below presents the Spam Index for our respondent population.

Calculating the Spam Index

Spam Index = sum of:

- *Estimated number of spam email per month per user*
- *Estimated minutes per month per user spent processing the spam*
- *Estimated number of resend requests per month per user*
- *Estimated number of messages trapped in spam filters per month per user.*

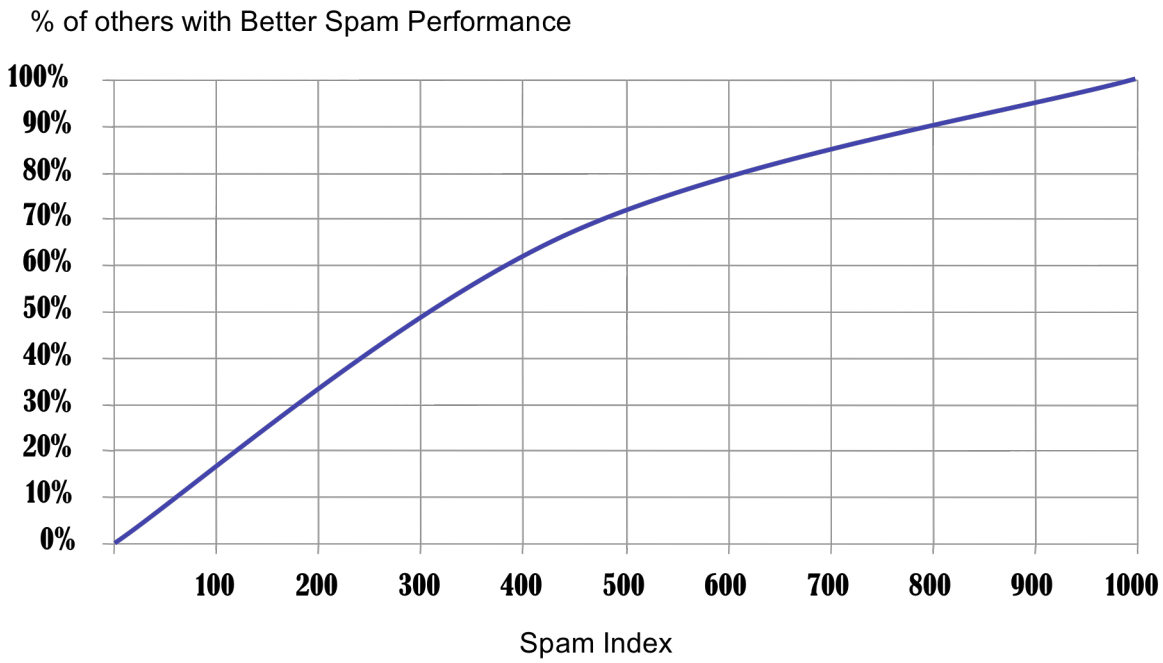
To determine ones own Spam Index, simply use the calculation description in the inset box.

To determine how you might compare to your peers and competitors you need to estimate its position on the x-axis of figure 5. Then follow the line up to the Spam Index line and then reflect the line to the left, going parallel to the horizontal-axis to determine the vertical-

intersection for the reflected line. This vertical-intersection point shows what percentage of the survey respondents scored better than your enterprise.

For example, if our Spam Index was 470, we would follow an imaginary line up from the 470 point in the Spam Index axis above, and then reflect the line left to see that 68% of other businesses have lower (better) Spam Index than our organization.

Figure 5 – The lower the Spam Index, the better the anti-spam performance.



Uses of The Spam Index

The goal of the Spam Index is to create a framework for measuring email security system performance from a user perspective. It is designed to equip users and IT managers with a simple tool to test the organizations' effectiveness and competitiveness of anti-spam measures.

Q For Future

How does the Spam Index compare for the various anti-spam technologies?

The Spam Index can be used to determine the effectiveness of changes in the email system. For example, the Spam Index ought to be calculated before adoption of any change to the anti-spam measure, which could be contrasted with the Spam Index afterwards. This way the email administrator and the business users they serve can evaluate an investments' true effect on the management of email, and incidence of spam. In this way the Spam Index before-after comparison leads to better understanding of investment performance and its effect on email quality.

The Spam Index is also an industry-wide comparative tool. Users can compare their Spam Index against a panel of nearly 500 other business people from around the world and learn how their organization compares in its Spam Index. Is it better or worse than 75%, 90% of others? These comparisons often help managers justify the investment of time and resources to initiate, scope, acquire and implement a change in the email security implementation.

How Does The Spam Index Relate to Business Performance?

Top findings:

- Top Performers have Spam Index scores less than 103
- Poor Performers have Spam Index scores over 604
- Top Performers have extraordinary business performance compared to Poor Performers: higher customer, employee, executive satisfaction, revenue and profit per employee and market share

The third application of the Spam Index is to compare Spam Index to business results such as market share, profit per employee and revenue per employee. Brockmann & Company segmented respondents into three segments – Top Performers, Average Performers and Poor Performers. These arbitrary segments were defined such that the Average Performers were all those respondent Spam Indices within one standard deviation from the average Spam Index. Therefore the Top Performers are the top 15.9% of users, and the Poor Performers are the bottom 15.9% of users, in terms of their Spam Index scores. Since high Spam Index indicates poor performance, the Top Performers score less than 103 on the Spam Index, while Poor Performers score over 604 points.

In segmenting the Spam Index and then comparing the Top Performers with the Poor Performers, we see several stark contrasts with these two groups of users presented in table 6 below.

Top Performers, as compared to the Poor Performers have superior business performance:

- 4 times more very satisfied customers
- 3 times more very satisfied employees
- 4 times more very satisfied executives
- 4 times more revenue per employee over $500,000
- 6% more market share

Determining the Top Performers & Poor Performers

- *Standard deviation (σ) is a measure of the 'spread' of the values about the mean of a distribution.*
- *Top Performers, and Poor Performers are all those results that are more than +/- σ from the mean.*
- *This corresponds to the top 15.9% and bottom 15.9% of the results.*
- *In this report, our distribution values are the Spam Index.*

Table 6 – Comparing Top and Poor Performers.

Result	Top Performers	Poor Performers
Very Satisfied Customers	39%	10%
Very Satisfied Employees	28%	10%
Very Satisfied Executives	42%	10%
Revenue per Employee over $500,000	26%	7%
Average Market Share	34%	32%
Profit per Employee over $50,000	29%	22%

So, there are compelling business reasons to invest to 'fix the problem.'

Conclusion

Email is universally recognized as being very important to job performance, corporate success and by extension to the global economy. Three quarters of respondents were able to associate a non-zero economic value with the most important email that they had ever received. The average most valuable email is nearly $12 million. Yet, more than a third had reported their organization had lost business as a result of an email that they or their customer had never received.

No doubt that spam is a problem. But so are many of the spam 'cures'. They create false-positives, unreasonably quarantine, mutilate or destroy good email, cause unnecessary delays in delivery, force unnecessary retransmissions and otherwise interfere in the business process. Worse, they don't work: they still allow an average of 11.2 spam to reach the user, every day.

The Spam Index provides a simple mechanism for users and managers to determine how their organizations' anti-spam performance lines up relative to industry peers and competitors. It also determines how a change in the system affects or doesn't affect the user experience.

To draw the link between the Spam Index and business performance, Brockmann & Company has shown that the Top Performers have business performance attributes greatly in excess of those of the Poor Performers.

Isn't it time for a change?

Appendix A: Methodology

Top dimensions:
- 475 participated in our online study
- 71% from the USA, Canada or Mexico
- 42% are from organizations with less than 100 employees, 35% have over 2,500 employees
- 40% have IT responsibilities; 33% have customer-facing roles (sales, marketing, service)

475 survey respondents from around the world participated in the 7-minute online survey; all were offered access to this completed report on conclusion of the study and a prize drawing was offered and held for an Apple iPod Shuffle. To qualify for the drawing, participants had to complete the survey and provide business contact details.

Industry-wise, the major verticals represented included:
- 28% of respondents were from the telecom, wireless, VoIP and Internet services industries,
- 19% from computer, network & telecom equipment industries,
- 12% from the software, business process outsourcing and IT services industries and,
- 12% from the financial services and health care industries.

Remaining participants included automotive, industrial, government, education, chemical, retail and petroleum sectors.

Appendix B: Related Research

A New Discipline in Email Etiquette
[http://www.brockmann.com:16080/index.php?option=com_content&task=view&id=494&Itemid=69]
Overcoming spam without reducing the value of email as a business correspondence and process tool requires a nominal adjustment to business users expectations when first sending email to somebody. Brockmann & Company, April 2007

Where Will Unified Communications Take Us?
[http://www.brockmann.com:16080/index.php?option=com_content&task=view&id=493&Itemid=69]
A technology forecast extrapolating the attributes of the future communications technologies likely to be adopted as part of the enterprise communications infrastructures and applications. Brockmann & Company, April 2007

First Communications
[http://www.brockmann.com:16080/index.php?option=com_content&task=view&id=492&Itemid=69]
A study of 343 business executives showed their preferences for emergency communications in a metropolitan disaster scenario. Voice here is king, but mobile voice is über-king. Brockmann & Company, April 2007

What Do Mobile Users Want?
[http://www.brockmann.com/family/peter/FirstHand-WhatDoMobileUsersWant-Jul06.pdf]
Mobile enterprise voice services preferences and feature priorities are analyzed and presented. Peter Brockmann, FirstHand Technologies, July 2006

About the Author

Brockmann & Company

is a **consulting & advisory** firm serving high tech equipment & application vendors and service providers. Our clients accelerate growth through customer research & thought leadership.

Peter Brockmann, the author of this report, has 20 years experience in process engineering, business development, corporate marketing, product marketing, competitive analysis, marketing communications, branding and Internet marketing. His career has spanned 3Com, Nortel, three startups, middleware companies and application service providers. Particular technologies he has supported or focused on include unified communications, SIP, MPLS, Ethernet, VoIP, PBX, ATM, wireless LANs, VPN, routers, Internet, public key infrastructure and business process routers.

Prior to 2001, Brockmann held various executive, product marketing, and business development positions at Nortel in customer relationship management software, enterprise data products and enterprise telephony businesses. In 1998 he served as an expert witness before the United States Department of Justice and the European Commission during inquiries into Nortel's acquisition of Bay Networks. Brockmann is a Wikipedia contributor, a past-member of the Microsoft Mobile Partners Advisory Council, a recent participant in the Intel Software Strategies Summit and a frequent commentator on technology and business at www.brockmann.com.

Brockmann has an MBA from McMaster University in Hamilton, Canada, a Bachelor of Engineering Science from the University of Western Ontario in London, Canada, and a piano performance degree from the Western Ontario Conservatory of Music in London Canada.

Learn more: www.brockmann.com.