Email Overload: Tolerance Levels of Employees within the Workplace

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ABSTRACT

Many email users receive too many emails to read in the time available to them. Employees who are bombarded by email may find it difficult to organise and prioritise their work. As a result it may be difficult to meet deadlines, and retrieve information buried within the inbox. The problems are not only limited to the volume of emails that are sent and received each day but also to the quality of the emails themselves. This paper takes steps to understand what contributing factors of email overload employees are most concerned about. A study was carried out to investigate how email was used and how employees viewed email use within the company. The views of the employees were then compared to the number of emails they received to give an indication of how many emails they receive before the employee becomes overloaded. This analysis was carried out for a number of issues relating to email use and found that employees were willing to tolerate some of the problems of email use more than others.

INTRODUCTION

Many email users, especially managers receive too many email messages to read in the time available to them (Balter and Sidner, 2002). In their study within a large international organisation Kimble, Hildreth and Grimshaw (1998) found that some managers were overloaded with emails because of the inappropriate use of the Carbon Copy (cc) function. This indicates that managers are not just overloaded by emails that require action, but also by irrelevant or untargeted emails. Research has shown that more than 65% of all email messages fail to give the recipients enough information to act upon and that poorly written ambiguous emails can lead to misunderstandings that can cause tension within the workplace and may lead to incorrect instructions being carried out (Frazee, 1996).

Information overload can be described as "information received at such a rapid rate that it cannot be assimilated" (Sheridan, 1974). Whittaker and Sidner use the term "email overload" to describe how email has evolved beyond a communications application, and is being used for additional functions which it was not originally designed for. Their research shows how email is used for multiple purposes such as: document delivery and archiving; work task delegation; and task tracking (Whittaker and Sidner, 1996). They discovered that users of email found it difficult to file away emails that were read, meaning that large numbers of emails tended to stay in the users inbox. This may be because users may find it difficult to categorise their email when archiving, especially if they wish to be able to retrieve them easily at a later date. Users often have trouble retrieving messages for later use or in remembering to reply or to act upon a particular message because current email systems are designed around the assumption that messages are informational and are read upon arrival, and that important messages are filed (Yiu et al, 1997).

This paper takes steps to understand what contributing factors of email overload employees are most concerned about. Some of the main defects that are associated with email use are explored to see how employees view email use within a large company. These views are then compared to the number of emails received to give an indication of how many emails they receive before they feel overloaded. Email defects are the problems associated with ineffective email use. Five of the most common email defects are examined to determine which defects employees are most concerned about and which they are most likely to tolerate.

METHODOLOGY

A study at a large UK Plc was conducted with the aim of creating an overall representation of the current state of email communication within the company and to reduce the defects associated with email use. The study was concerned about email use within the company, with the focus on internal email and how to make employees more effective email users. The focus was not on how to deal with SPAM or unsolicited mail, although the study did capture employees' views on the issue. Employees answered questions about how they viewed email use within the company and were asked how many emails they received each day and how many emails were irrelevant or they had been copied in on unnecessarily. From the results the authors were able to determine how the volume of received email differed between respondents according to how they felt about email use within the company. This further allowed the authors to determine how many emails employees could receive before a defect became intolerable. This analysis was done for all the questions used within the study where the respondents were required to indicate to what extent they agreed with a statement about email use within the company. A number of the questions were related to email defects that are the focus of this paper.

The email defects were:

* Receiving poorly written / ambiguous email
* Email as a distraction
* Email being used too much in place of other forms of communication
* A poor or blank subject line
* Receiving irrelevant / untargeted email or being copied in unnecessarily

The authors decided that the most appropriate way to capture the information required would be to use a questionnaire. This was because the study was aimed at the whole company with over 3000 employees, and a one to one interview approach with all the employees would be impractical due to time restrictions. It would also be impractical to monitor the email usage of such a large number of employees to get the information required. The questionnaire developed by the authors was hosted on the Internet, which made capturing the data easier than if a paper based questionnaire had been used. Each response to the questionnaire was automatically stored in a database, with each column representing each question, and each row representing each submitted re-

sponse. The questionnaire was hosted at Loughborough University, and not at the company itself, to ensure that the data would not be manipulated prior to analysis and it also gave the employee's added security that their individual responses would not be disclosed to the management. The company has approximately 2850 copies of Lotus notes, which is the email application used. Some 875 responses were received giving a response rate of 31%.

The average number of emails received per day by employees was found to be 23. This takes into account all respondents without the data being filtered by demographic characteristics or by responses given. The average numbers shown in Tables 1-3 are filtered and only take into account the respondents who have answered in a certain way to a given question. The data for each of the email defects discussed within this paper takes a separate overview of the responses for each question, meaning that it is not possible to identify and compare individual respondents from the data given.

The questions used in the tables to represent each email defect are worded in the same way that they appeared in the questionnaire. In order to discourage respondents from giving the same response for each of the questions the bias is reversed in some cases, causing employees to disagree with a statement rather than agree with it.

The Quality of Received Email

The results from the study show that the more emails that employees received, the more dissatisfied they were with the quality of the email. Employees were asked if the email they received was easy to read, to the point and if it told them what action was expected from them and by when. Employees that said the email they received was easy to read received far less emails per day than those who said that it was not easy to read. There was a trend between the number of emails received per day and the extent to which the employees considered their received email to be easy to read. Those that received more email were less satisfied about their email being easy to read. This trend was also true when employees were asked to rate other aspects of the email they received. This can be seen in Table 1.

Employees are likely to be more critical of the emails they receive because of the volume of messages received. Table 1 shows that the employees are willing to accept or tolerate receiving 24 or 25 emails per day and not be concerned about whether they are easy to read or to the point. It is only when employees receive 27 or 28 emails per day that they start to become concerned about the quality of the emails they receive. It can be seen that employees who are most concerned and strongly disagree that they receive well-written emails receive significantly more than other employees. The range of emails received in Table 1 indicates the extent to which receiving badly written emails impacts on employees' views of email use. The difference from the neutral number of emails indicates how many more additional emails employees can handle before they start to complain about the quality of the email.

The Arrival and Processing of an Email

Email defects can also result from how employees' process their incoming email. Employees may find it difficult to prioritise email that contains an inappropriate subject line. Email can be a distraction within the workplace, especially if employees feel overloaded by the volume of email they receive. Employees may feel that the message within an email may have been better suited to another form of communication.

Employees that said email was a distraction, and that it sometimes distracts them from more important work received on average more emails per day than those that said email was not a distraction. Table 2 shows that those employees that are neutral in the view that email is a distraction receive on average 19 emails per day. Those that consider it to be distraction receive on average 26 emails per day and those that are very concerned receive on average 29 emails per day. The relatively high deviation from the neutral response indicates that employees need to receive a substantial number of additional emails before email becomes a distraction. Comparing this to how employees tolerate the quality of the emails they receive shows that while employees have a comparatively high tolerance for receiving poorly written emails, the

Table 1: Average emails received against how employees rate the email they receive

	1 Strongly agree	2 Agree	3 Neutral	4 Disagree	5 Strongly disagree
Emails I receive are easy to read	16	22	24	28	34
Deviation from neutral	-8	-2	0	+4	+10
Emails I receive are to the point	22	19	25	27	38
Deviation from neutral	-3	-6	0	+2	+13
Emails I receive tell me what is expected of me	19	21	25	27	38
Deviation from neutral	-6	-4	0	+2	+13
Emails I receive tell me when action is required	18	21	24	27	30
Deviation from neutral	-6	-3	0	+3	+6

Table 2: The average number of emails received by how employees view the email defects

Email Defect	1 Strongly agree	2 Agree	3 Neutral	4 Disagree	5 Strongly disagree
Email often distracts me from more important work	29	26	19	21	18
Deviation from neutral	+10	+7	0	+2	-1
Email is too often used in place of other forms of communication	27	23	22	21	22
Deviation from neutral	+5	+1	0	-1	0
Subject line contains sufficient detail for me to access the importance of the email	22	20	20	26	29
Deviation from neutral	+2	0	0	+6	+9

number of addition emails required to cause concern is comparatively less than the number of emails required to distract employees from their work.

Those employees that answered strongly agree when asked if email was used too much in place of other forms of communication received on average more email than other respondents. Table 2 shows that employees are willing to receive up to 22 emails per day and not be concerned about whether email is used too much in place of other forms of communication. Neutral employees need only to receive an extra email per day for them to become concerned over whether or not email is the most appropriate medium to be used for some messages.

The subject line of an email is one of the first indications that the recipient receives about the importance of the message within a particular email. When the employees were asked if the subject line contained enough information for them to access the importance of the email, it was found that those who rejected the statement received substantially more email than those employees who agreed with the statement. Those that receive more email may have a greater need to be able to prioritise incoming email because they do not have the time to read emails in the order they arrive. Emails that have a clear subject line are more likely to be easier to prioritise than emails with poor subject lines. Table 2 shows that those employees that are neutral in the view that the subject lines contain sufficient information to access the importance of the message receive on average 20 emails per day. Employees begin to become concerned about effective use of the subject line when they receive on average 26 emails per day, and become very concerned when they receive on average 29 emails per day.

Irrelevant Email and inappropriate use of the CC function

Employees were asked if they were copied in on email unnecessarily and if they received irrelevant or untargeted email. Employees often get copied in unnecessarily on email due to inappropriate use of the carbon copy (cc) function or because of outdated mailing lists. Irrelevant or untargeted mail is generally unsolicited email or junk email (SPAM).

Those employees that gave a positive response when asked if they were copied in on emails unnecessarily, tended to receive on average more emails per day than those employees that gave a negative response

Table 3: The total number of emails, unecessary emails and irrelevant or untargetted emails received per day by whether employees think they receive unecessary or irrelevant / untargetted   email

Email Defect	1 Strongly agree	2 Agree	3 Neutral	4 Disagree	5 Strongly disagree
I receive unnecessary email	25	24	23	22	15
Deviation from neutral	+2	+1	0	-1	-8
Unnecessary emails received per day	8	5	3	2	1
I received irrelevant / untargeted email	24	23	24	22	19
Deviation from neutral	0	-1	0	-2	-5
Irrelevant / untargeted Emails received per day	5	4	3	1	1

to the question. It was also found that those that said they get copied in unnecessarily also actually received more unnecessary emails per day than those that answered negatively to that question. Table 3 shows that employees who believe they get copied in unnecessarily on email, receive on average more email than those that say they do not. Similarly the actual number of unnecessary emails received is greater for those who have stronger opinions about whether they get copied in unnecessarily on email. Those employees that gave a neutral response to this question receive on average 3 unnecessary emails per day. This means that employees are willing to tolerate receiving up to 3 unnecessary emails per day. Any number greater than this will lead employees' to complain about being copied in on email unnecessarily.

Employees were asked if they felt that they received irrelevant or untargeted email. Table 3 shows the average number of emails received compared to whether the employees believed they receive irrelevant or untargeted email. The actual number of irrelevant or untargeted emails received per day is greater for those employees who say they receive irrelevant or untargeted email. Employees are willing to tolerate receiving up to 3 irrelevant or untargeted emails per day.

CONCLUSIONS

The results from this study indicate that the more email employees receive, the unhappier they are with how email is used within the company. This is reflected in the high number of emails received by those who are concerned about the defects. Although it is not just quantity of email that causes concern, it is also the quality of the email. Employees are concerned about being overloaded by email and as they become overloaded they become less tolerant of the defects associated with email.

The defects associated with email use were found to impact upon employees in different ways. It was found that employees were more sensitive to some of the defects than to others, meaning that they can tolerate some defects more than others.

When examining the defects there are two factors to consider. Firstly, the tolerance level associated with a defect gives an indication of the level that employees are willing to accept without the defect causing an issue. Secondly, the additional number of emails it takes before the defect becomes an issue. This second factor indicates how much it takes for a defect to become intolerable.

The defect that is likely to cause the most concern for employees is that they get copied in unnecessarily and receive irrelevant or untargeted emails. This is because of the small increase in the number of emails needed to cause concern. Email being used too much in place of other communication is the defect that is likely to be the second largest concern to employees. The third most significant email defect, based on the additional number required to make it intolerable, is the quality of the emails that employees receive. A poorly written or empty subject line is the fourth most significant email defect. The email defect that requires the most additional emails to make it intolerable is that email can distract employees from other work.

This paper has shown that employees are willing to tolerate some email defects more than others. Organisations need to be aware of the problems associated with email use and how email overload can cause email defects to become intolerable. Knowing how employees react to email overload can help organisations to target email defects to make email overload more bearable.

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