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# How Anti-Spam Measures Impact on Your Email

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## 1 Introduction

Unsolicited commercial email, commonly referred to as spam, is now recognized as a major problem causing considerable costs (e.g., [Ferris Research 03]) and impacting on how people use email (e.g., [Fallows 03]). Anti-spam measures, such as email filters and server-based block lists, have become ubiquitous. There is a growing body of empirical and anecdotal evidence suggesting that apart from the desired effect of reducing the incoming spam load, anti-spam measures are also undermining the global email system in terms of reliability and usability [Lueg 04]. In this paper, we argue that one of the underlying problems is that current implementations of spam filters are not capable of assessing whether email was actually solicited or not as they merely test for the presence of certain features considered typical of spam messages.

## 2 Difficulties in defining spam

Current spam filtering software focuses on detecting specific characteristics considered typical of spam messages by the software's developers. Specific characteristics may include, for example, occurrences of certain terms (used in more traditional filtering approaches) or term distribution patterns (statistical filtering approaches).

Quite differently, most definitions of spam to be found in the literature are based on the fact that spam or, more precisely, unsolicited commercial email was received *unsolicited*. In a report on the spam problem and how it can be countered, the Australian National Office for the Information Economy (NOIE) defines spam as "*unsolicited* electronic messaging, regardless of its content" [NOIE 02, p. 7]. The U.S. Center for Democracy and Technology states "spam is used to refer to a single or multiple pieces of mail that are perceived by the recipients to be *unsolicited* and *unwanted*" [CDT n.d.].

Assessing solicitedness is difficult to automate though. Whether a message was solicited or not it is *not* an aspect of a message that could be tested for as,



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for example, in the sciences. Rather, (un)solicitedness is a matter of interpretation to a significant extent [Lueg 03]. [Fallows 03, p. ii] summarizes: "While Internet users generally agree that spam is 'unsolicited commercial email from a sender you don't know,' there is plenty of room for fuzziness around the edges. Messages with religious, political, or charity-fundraising content is spam to some, but not others. Users also have varying answers about how businesses should interpret their relationship with potential customers. There is not a clear consensus among users about the circumstances under which they are 'known' by a seller or 'have a relationship with' a firm." [NOIE 02] states that "arriving at an agreed definition of spam is a potentially contentious issue, as the direct marketing industry, ISPs, spammers, blacklists and privacy and consumer groups have their own interests and views."

### 3 Conclusions

While providing considerable benefit, anti-spam measures, such as filtering and blocking, also create specific problems. Legitimate email may be rejected or dumped if messages feature characteristics considered typical of spam. Presence of such characteristics gained its importance as spam filters are not capable of assessing whether or not messages were solicited (which actually is the key concept used to define spam). In order to better understand potential collateral damage, we are focusing on *in situ* studies as opposed to lab-type studies.

### 4 References

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