Chapter 7
Chronicle of a Journey: An E-Mail Bounce Back System

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ABSTRACT
Every email that originates from outside of an organization must go through a series of firewalls and gateways before reaching the intended recipient inside the organization. During this journey, each email may get scanned for possible viruses or other malicious programming codes. In some cases, the e-mail may also receive a score based on the possibility of spam content. On any stage of this processing email can be quarantined, or moved to a spam folder for the future possible analysis or simply deleted. Understandably, such complex structure helps secure the company’s internal infrastructure, however, e-mails have become an important tool in marketing for many e-commerce organizations and if marketing e-mails do not get to their intended receiver, the sending company will be disadvantaged. Therefore, from the point of view of the sender of an e-mail, it is important to understand the faith of the e-mail that was sent and whether it was received as intended. In this case study, we describe an e-mail bounce back system that was developed by a major e-commerce company in order to understand whether its e-mail based marketing was successful in delivering the intended message to its customers. In addition to the describing the development of the system, security and privacy issues are also discussed.

INTRODUCTION
E-mail was originally created as a tool for simple asynchronous communications. However, recent advances in communication technologies have made it possible for the e-mail to become ubiquitous in our daily lives (Ducheneaut & Bellotti, 2001; Goodman, 2008). According to December 2008 Pew Research survey, 74% of Americans use the Internet and 91% of them use it to send and receive e-mails (Pew Research) and it is estimated that 72% of them use the Internet on daily basis and 54% of them use it to send and receive e-mail. The Radicati Group estimates that there are 1.2
billion email users in 2007, expected to rise to 1.6 billion by 2011. At the same time, the use of e-mail as a communication tool has evolved to the point that it has become the dominant communication channel for more than just sending and receiving simple messages. It is now dominant method for the exchange of ideas and increasingly, as a critical part of conducting business (Whittaker & Sidner, 1997; Active.com, 2008).

In the current tough economic times, retailers are pressured to increase sales by all means necessary, including the use of e-mails. For business, the use of E-mail has been enormously successful; both as a communication medium and as a sales lead generator. Major retailers see e-mail as an important avenue to stay in touch with their customers and to generate new customers (Active.com, 2008). Sending the right e-mail to the right target and potential customer is a very cost effective and inexpensive method of generating sales (Active.com, 2008). Although it is difficult to have an accurate estimate of the number of e-mails sent out on daily basis, a conservative estimate would put the number to be in excess 180 billion messages are sent out per day. This means that more than 2 million emails are sent every second (Tsegbitscher, 2008). Radicati Group estimated that the number of emails sent per day (in 2008) was around 210 billion and it estimated that about 70% to 72% of them might be spam and viruses. The genuine emails are sent by around 1.3 billion email users.

According to a study of 109 of the largest e-retailers by the Email Experience Council (EEC) (Internetretailer.com, 2009), retailers sent out 45% more e-mail during the six weeks from Nov. 10 to Dec. 21 than they did during the preceding 12 weeks preceding the holiday season. The report also shows that the number of e-mails sent by retailers has grown by 45% over the past year and on average a retailer sends out 2.8 e-mails per week. According to the same EEC report, the percentage of e-retailers sending more than three e-mails per week has doubled from 14% to 28%, and the percentage of retailers sending more than five e-mails weekly more than doubled from 4% to 10%. However such an increase in emails from merchants to potential customers has can have a significant downside (Edmunds and Morris, 2000). Customers may see this increase in e-mail frequency and traffic as an unwelcome intrusion and may view the e-mails negatively which can cause customers to opt out of e-mail lists or report e-mail as spam (Corker & Utz, 2002; Fallows 2003; Hough & Signorella, 2003).

But what happens when someone sends an e-mail out and it never reaches its destination? What happens to such e-mails? Do e-mails sometimes bounce back to the sender with an error message indicating that the e-mail was not delivered correctly to its intended recipient or do they just vanish into the Ether? Answers to these questions have a profound and important implication for organizations using e-mails not just as a communication tool but as a marketing and sales tool. Undeliverable emails, email “bouncebacks” are becoming more and more of a challenge for email marketers these days. According to a recent Association for Interactive Marketing (AIM) survey, 77% of respondents had bounce rates up to 10%, and 23% had rates greater than 10%. Every email that originates from outside of an organization must go through a series of firewalls and gateways before reaching the intended recipient inside the organization. During this journey, each email may get scanned for possible viruses or other malicious programming codes. In some cases, the e-mail may also receive a score based on the possibility of spam content. On any stage of this processing email can be quarantined, or moved to a spam folder for the future possible analysis or simply deleted. Understandably, such complex structure helps secure the company’s internal infrastructure, however, e-mails have become an important tool in marketing for many e-commerce organizations and if marketing e-mails do not get to their intended receiver, the sending company will be disadvantaged. Therefore, from the point