
It's All About Coupons: Exploring Coupon Use Behaviors in Email

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CHI'17 Extended Abstracts, May 06-11, 2017, Denver, CO, USA
© 2017 ACM. ISBN 978-1-4503-4656-6/17/05...\$15.00
DOI: <http://dx.doi.org/10.1145/3027063.3053339>

Abstract

At Yahoo, we have been exploring the changing role of email in people's lives [4]. A major part of what we have heard from participants in weekly usability studies is that their primary use of email – not limited to Yahoo Mail- is for receiving coupons and deals; yet, this topic is underexplored in the HCI literature, with few clear implications for design. To understand how people save, share, or use promotional email, as well as how they deal with the overload of these emails, we analyzed quantitative data from a large marketing study and an online survey, and conducted a two-week diary study to qualitatively understand coupon use. We found that 92% of American adults have received a promotional email and 65% have used one in a 2-week period. We explore the flow of a digital coupon in a user's life and conclude with implications for the design of new digital coupon systems and email clients.

Author Keywords

Consumer; email; deals; coupons; communication.

ACM Classification Keywords

H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous;

Introduction

A 2013 study found that 92% of Americans use coupons, and the use of mobile/digital coupons had nearly tripled from three years earlier [12]. With the ease of online shopping, email has become a hub for collecting deals and discounts in hopes of finding ones that will save us money. However, to date much of the research literature around email has focused on the original use of personal communication rather than on its use for consumer marketing, which is by far the dominant use today.

We set out to understand “*how do people use or do not use the coupons and deals that they receive in their email?*”, with the goal of ultimately developing ways to improve their experience with receiving and using coupons and deals. We used a combination of quantitative data from two online surveys and detailed qualitative data from a two-week diary study. We discuss how people manage commercial email overload on a platform that once was mainly a person-to-person communication tool. We are the first to provide detailed insights about couponing behaviors over time in digital tools such as email. We conclude with design implications for email systems that better support promotional email management.

Related work

The goal of this case study is to understand how people organize and use coupons from their email inbox. This is a critical issue for HCI to understand, as a 2015 study identified shopping and coupons as the fourth most common mobile search query, representing 12% of all queries [6]. Other research performed in the US has identified coupon sharing as the second most common type of links shared in SMS [5].

Despite 90% of Americans engaging in coupon use regularly [12], the little HCI research that exists has focused on paper and electronic coupons, rather than on couponing behaviors in email. Hillman et al. studied group sharing websites such as Groupon and found that people do not use them only for finding deals, but for planning group activities [10]. Gasimov et al. found that the forwarding rate of coupons was higher via email than via SMS [7]. Email overload has been studied mainly in the work context [14]. Retailing research has studied promotional coupons and deals in detail, but the focus has been on consumer profiles, theories around coupon proneness, and usage models [1,2,13] rather than the user experience of receiving, managing, and using emailed deals. Marketing research has focused on best practices for retailers to craft and time their messages [8,9,11].

Building on previous research, we focus on the consumer side of couponing in email: receiving and sorting through coupons and deals, which has not been previously examined in detail.

Methods

In order to explore current digital coupon behaviors, we conducted three studies using mixed methods – two online surveys and a two-week diary study with 9 participants.

Online Surveys

Our work began with findings from a large-scale market research survey conducted by our group with 1,000 individual respondents, who were representative of the American population. The survey included questions around email coupon use, and the prevalence of use was surprising: 91% of participants received a coupon

via email in the past two weeks and 65% had actually redeemed one. To explore this topic in greater depth, we conducted an online survey dedicated to couponing in July 2016. We aimed to quantitatively size recent interactions with coupon emails, such as the last time they were used, shared, saved for later or unsubscribed from. This MTurk survey included questions about how people organized their email related to coupons and deals. The survey comprised 151 participants from diverse backgrounds. They ranged between 19 and 67 years old, 47% were female, worked a variety of occupations, and lived in 36 different states. We paid them \$1.50, reflecting an average hourly rate of \$12.

After analyzing the data from the online survey and the larger marketing survey, we identified four common coupon behaviors: sharing, saving, unsubscribing, and using. With that in mind, we designed a diary study to collect qualitative data and context around these uses.

Diary Study

After analyzing the results from the online survey, we recruited nine participants to provide qualitative details about their use of email coupons via a two-week diary study. To observe at least a few instances of use, we included those who have used at least one email coupon in the last three weeks, which, as our quantitative studies showed, included a majority of Americans. Interviews were conducted in San Francisco (S1-S5) and in Silicon Valley (P1-P4). While the interviews were conducted with Bay Area participants, the larger themes from these interviews were resonant with findings from the US representative sample. Participants ranged between 30 and 70 years old, four were female and five were male, and had a variety of occupations, including a travel manager, a recreation

leader at a summer camp, a teacher, and a legal assistant. They were compensated for their time and were told that they did not have to use coupons in any way during the study period for full compensation.

We conducted an initial 30-minute interview with each participant, asking about the same topics as the online survey, and probed for richer qualitative details around recent instances of coupon use or organization. Then we asked the participants to leave a voicemail every day for two weeks, answering a series of questions, such as what coupon/deal emails they received, and details around any that they have shared, saved, or used. Participants left a total of 105 voicemails over the two-week period. At the end of the study, participants returned for a final 30-minute session during which we discussed their diary entries in more detail. These qualitative responses helped identify the daily life context around coupon behaviors in email, which would not have been possible through an online survey.

We transcribed all of the interviews and conducted a grounded theory-based affinity analysis of the results [3], iteratively identifying themes from the 459 raw quotes as leaf notes in the analysis (shown in Figure 1). Top-level themes included patterns around the flow of a coupon in a person's life, how and when people subscribe and unsubscribe from such lists, and issues with digital coupons and current tools to manage them.

Findings

The affinity analysis of the exit interviews and voicemail diary entries highlighted three major themes around coupons, with the broadest one being about the flow of a coupon: users' practices of triage, organization, finding a coupon in email, different ways of redeeming

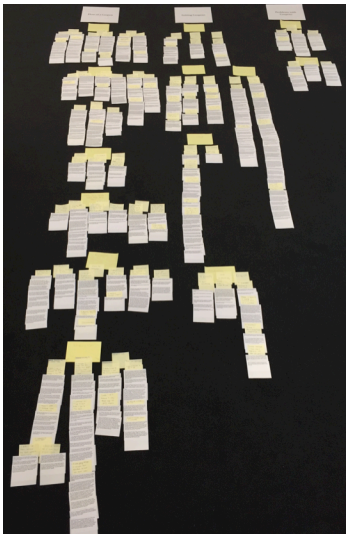


Figure 1: Results of our affinity analysis with 459 direct quotes serving as the leaf notes in the diagram.

Receive coupon/deal emails	92%
Used a coupon/deal in last 2 weeks	65%
Used a coupon/deal in last 1 week	50%

Table 1: 92% of survey respondents receive coupon and deal emails, and most of them have used a coupon in the last 2 weeks.

More than 30 per day	1%
10-30 per day	9%
3-10 per day	41%
1-2 per day	23%
1-2 per week	13%
1-2 per month	5%
Less than 1 per month	1%
Never	7%

Table 2: Most survey respondents received 3-10 coupon and deal emails per day.

it, and deciding whether to use it. The second theme centered on the process of getting coupons, such as subscribing or unsubscribing to mailing lists, and sharing coupons. The final theme was concentrated on problems with coupon email overload. We will explore the qualitative themes while providing support from the larger surveys to demonstrate where behaviors that we observed in the diary study were representative of behaviors in the larger American population.

Flow of a Coupon

As shown in Table 1, 92% of survey respondents received a coupon or deal email in the last two weeks, which matches the Retailmenot study that reported that 92% of Americans use coupons [12]. Table 2 shows that 41% of people received 3-10 deal emails a day, and reported being subscribed to an average of 11 companies. As couponing is a weekly behavior for most Americans, we wanted to better understand the flow of a coupon in their lives, from receiving a message to redeeming, discarding, or ignoring it.

TRIAGE OF COUPON EMAILS

The flow of a coupon in email starts with a person receiving a message in their Inbox and looking at it (or ignoring it). The online survey confirmed that people mostly looked through their coupon emails right before they made a purchase or went shopping (40%), followed by looking through their coupons once at a particular time of the day (16%).

The diary study participants identified that the sender (retailer) and subject line helped determine whether a coupon email was worth keeping. P4 emphasized that: *"the ones that the subject line catches my eye, then I won't delete them right away."* Once they were done

with triaging, most participants went further into organizing their email. The online survey showed a similar trend, with 62% of respondents reporting that they delete unwanted emails. This signifies their desire to stay in control of the influx of promotional messages.

ORGANIZATION OF COUPON EMAILS

Another important step in the flow of a coupon is how people organize such emails. While diary study participants had a variety of organization strategies, 7 of the 9 of them had a designated place for the coupons they cared about: either in a separate folder or just in their Inbox. P1, for example, preferred leaving them in his inbox so he could see them: *"Folders are like storage almost, and you don't always think about them, which is why I keep them in my inbox."*

Participants identified the need for a designated place for saving coupons that would be easy to see and access, and P2 explained: *"That'd be really great, because you don't always necessarily keep track, or think about keeping track, but it works out really well if there was something like that."* While they had various strategies for "saving" coupons in their email accounts, there were some who saved coupons outside their email, such as via screenshots or taking notes. Overall, their organization strategies influenced the way they later retrieved a coupon. This emphasizes the need for better processing of incoming promotional messages in order to ease the burden of organization on the user.

TIME BETWEEN SEEING AND USING A COUPON

65% of the online survey respondents used a coupon within the last two weeks, and 50% used one within the last week. Based on both of our studies, three factors seem to influence when a coupon will be used: 1) can it

be used online, 2) how close is the store/is it on the way, 3) is there a need for this item. If participants needed an item and saw a deal for it, regardless of the retailer, they were more likely to use the coupon. P2: *"I was going to buy the Blu-Rays anyway. It just happened that I got a deal going there."* The main reason for using a coupon, according to the online survey, was also the need for an item (30%). This is important for designing technologies aimed at surfacing the most relevant coupons to each user. Next, we focus on the next step in the flow of a coupon: redeeming it.

REDEEMING COUPONS

The diary study helped us identify ways in which people redeemed a coupon: they showed it on their phones, printed it, called on the phone and mentioned it, or just entered a phone number or a loyalty card at checkout. To find a coupon, diary study participants used the search bar or scrolled through the rest of the emails. The online survey confirmed that most people used a coupon online (47%), followed by 23% who showed it on a device, and 23% who printed it. The diary study found two reasons for printing the coupon: to save it outside email or to make it more likely to be accepted.

Both survey respondents and diary study participants reported missing out on deals that expired before they could redeem them. They mentioned being vaguely aware of the short expiration dates, but still being disappointed when they did not use them in time. According to S3: *"My intentions are, wow, I really want to use this, but a lot of them are really day sensitive and then with just time going on and it seems like every time I want to try and use something, something happens where it's expired."* There were some coupons with long or no expiration dates at all that they just

saved for later. Often, expiration dates are buried in emails in small text, making them easy to overlook. Next, we discuss the reasons why people do not end up redeeming their saved coupons, in addition to the missed expiration date, as revealed by the diary study.

DIDN'T USE COUPON

Most coupons received in emails do not get used, mainly because participants did not want to use them: not a good deal, not interesting, or no longer useful. For instance, P2 talked about how his children had outgrown the sizes offered at a store. Other coupons were saved, but not redeemed: participants either bought the item from a different company, decided against buying it, or just did not go to the store.

Thus, the flow of a coupon ends either when it was redeemed or when it was not used, either on purpose or because it expired. By better understanding the flow of coupons, we can design tools to help users get the most out of them. Next, we focus on the reasons and formalities around receiving coupons in the first place.

Getting Coupons

Here we summarize our findings about behaviors around signing up for coupon/deal mailing lists, sharing such emails, and unsubscribing. We identified various reasons for signing up for coupon mailing lists, and we group them in three main categories: new experiences (not social), social activities, and a mix of products.

One of the main reasons for subscribing to deal mailing lists was to get ideas for new places to go, or things to do. Some participants used coupon emails to look for ideas for gifts, as well as to receive deals from retailers they shop from often or ones they want to try out.

How many of the last 3 coupons you used were from companies from which you had used a coupon before?

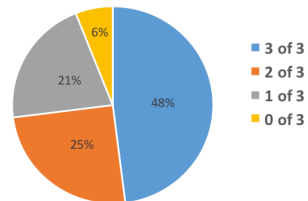


Figure 2: 44% of the survey respondents reported that all of the last 3 coupons they used were from a company where they had used a coupon before.

Notably, diary study participants rarely used a coupon from a new brand. We saw a similar trend in the online survey: only 6% of respondents said that all of the last three coupons were from new retailers.

SIGNING UP

In order to receive coupon and deal emails, people often have to provide their email address. Some participants voluntarily signed up for such emails (e.g., to earn points from loyalty programs), but others had to give their email to make a one-time purchase, which involuntarily put them on a mailing list.

Participants chose to stay subscribed to such lists in case there was a great future deal that they did not want to miss. This fear of missing out on a deal was one of the main driving factors behind receiving such emails. P3, for example, was saving the coupons: *"maybe I don't need to buy, but I definitely need to save them because just in case there was something interesting."* Therefore, it is critical to address this fear when designing future coupon and deal systems related to email in order to alleviate the stress on users.

Brand loyalty, such as rewards programs, is one of the key reasons diary study participants received and used coupons. Almost all coupons they used in the last two weeks were from companies in which they had used one before. As shown in Figure 2, 44% of online survey respondents said that all of the last three used coupons were from companies they had used one from before.

SHARING

The affinity analysis uncovered another major theme: sharing coupon and deal emails. 8 of the 9 diary study participants shared at least one such email during the

two weeks, mostly via email. This was supported by the online survey, in which 65% of respondents had shared a coupon before. Of those who shared a coupon, 78% did so via email, followed by 9% via Facebook. 18% of respondents had shared one in the last two weeks.

A common scenario in the diary study was to share a deal with someone because it might be useful to them, or because they might join the activity, such as when S4 shared deals with his girlfriend. S6 shared coupons with a friend who sent him similar deals, which is an example of the "balanced sharing" studied by Hillman et al., who had identified participants that shared deals with a friend they often shopped with [10].

Since sharing promotional emails is such a common activity, it is important to focus on ways to improve the experience with it. Next, we focus on the reasons why people chose to unsubscribe.

UNSUBSCRIBING

Six of the nine participants did not unsubscribe from anything during the diary study. It is interesting that even though some participants, like P1, expressed frustration, they still remained subscribed mostly due to the fear of missing out on a future deal: *"I put up with them because occasionally I do need them."*

Our diary study identified four main reasons for unsubscribing that were validated by the online survey: (1) some mailing lists, as P2 described, had *"too much garbage"* and became overwhelming (35% of online survey respondents); (2) participants did not know or what to be a on a list, but ended up there, usually through a one-time purchase (26%); (3) they no longer shopped in that store, so there was no fear of missing

out (33%); (4) some, like S4, had a negative experience with the retailer (1%).

Our findings suggest that people sign up for a wide variety of deal mailing lists, but they very rarely unsubscribe. Even if they rarely shop in a given store, they are still interested in “window-shopping” and browsing through what’s available. Therefore, it is important to address people’s need to look at various coupons and deals, but prioritize the ones that are most relevant so they can see them more easily.

Coupon Email Overload

Most participants mentioned receiving too many coupon emails, especially from some retailers, who, as S1 pointed out, “*would just bombard you with stuff.*” This overload made them feel annoyed. It was worse when the same deal message was sent multiple days in a row: P1 said that “*I got two on Sunday, because it’s the last day and then the last few hours, and it’s like, seriously? It’s to the point of being stupid, it’s useless. You’re sending so many out, it’s like I’m desensitized to them.*” Notably, all of these participants stayed subscribed to the email lists. This suggests that people like only some coupons, so it is important to help them find and use the ones they enjoy, and to reduce negative emotions associated with coupon emails.

Discussion

Our findings suggest that people interact with digital coupons in unexplored ways, as the role of email in their lives has changed. Both the online survey and industry studies have shown that millions of people receive and use coupons in email just in the US, so we need to rethink the design of the platforms and account for the changing nature of the incoming messages. We

used our findings to suggest design implications, which aim to improve the functionality of email clients for coupon use by alleviating the burden on the user.

Implications for Design

Given the combination of quantitative data from the online surveys and the qualitative details from the diary study, we identified the key coupon behaviors in email: sharing, saving, unsubscribing, and using coupons. Our findings from the issues people faced when dealing with coupons and organizing email, led us to focus on presenting design improvements, which leverage extractions and parsing incoming emails to present key information in a more easily digestible way for the user.

Notably, most participants shared a coupon email via forwarding it. Thus, we should strive to make sharing coupons as effortless as possible: if we think of emails more like social media posts rather than messages, we could easily share them by “tagging” people.

Due to the need to digest the overload of email, which results from rarely unsubscribing, we propose a novel use of machine learning algorithms to prioritize coupons that might be most interesting and useful to users based on features from logged data, similar to how Facebook ranks Newsfeed posts. Instead of going through each message to determine if they wanted to keep it, users would be able to see the most relevant deals at the top of a ranked “coupon feed,” as seen in Figure 3, and scroll through the rest.

Since most participants saved a coupon in some way, we can use that as a feature for the ranking algorithm. We can further enhance the feed by incorporating the ability to save coupons, so users can return to specific

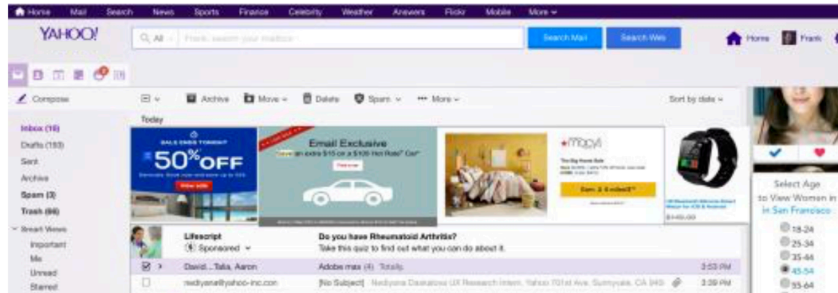


Figure 3: A ranked coupon feed that shows the most relevant deals from email.

deals later and have a designated, visible, and easily accessible place for saved coupons. While Google's Promotions tab is a first step towards a feed of deal emails, it is still a reverse chronological list of **all** coupons, making it difficult to find ones that a user is most likely to engage with, which adds to the feeling of email overload.

The combination of quantitative and qualitative data showed that both participants in the diary study and the online survey were usually not aware of the expiration dates, and thus missed out on deals they cared about. This led to our finding that it is better to prioritize deals and coupons that are expiring soon. We can extract expiration dates from email and use them as features: we can identify text in the message body or images with regards to deal details as well as expiration date. A design could allow users to save a coupon, and if they miss using it, the machine learning algorithm would highlight similar coupons in the future.

The coupon feed might also alleviate the fear of missing out, as well as quenching the user's curiosity for new deals. We saw this problem in the quantitative data, but the details in the diary study exposed the extent to which people prefer putting up with unwanted emails for the sake of not missing out on a deal. If the coupon

feed presents the deals in a visual way, showing each promotion in a scrollable list, it may reduce the effort of finding interesting things - usually buried in the content of an email. This design would show people the most promotions in an easier to digest manner, emphasizing that the best ones will always be on top.

One limitation of our study is that was done with a US sample, so it might not be representative of other countries. However, the small sample size of the diary study was balanced by the online survey and the large marketing study.

We have shown design implications for email based on the novel ways people use coupons they receive in their emails. We suggest a possible novel design of a coupon feed that would decrease the cognitive effort for the user and parse coupon and deal data to present it in a more manageable and usable way.

Conclusion

In this case study, we explored various couponing behaviors in email, and the implications for design to improve user experience in the context of one email use case (i.e., promotional emails). This is an important area of research as the role of email in coupon use is changing. In order to understand these emerging use cases, we identified the key couponing behaviors of sharing, saving, using and unsubscribing from coupon and deal emails. Based on the findings from both the quantitative surveys and the more detailed qualitative diary study, we pinpointed future opportunities for development in an attempt to address the challenges of using the email platform originally designed for personal communication, for this new task of managing commercial email.

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