

People's Perceptions of Personalized Ads

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ABSTRACT

Advertising is key to the business model of many online services. Personalization aims to make ads more relevant for users and more effective for advertisers. However, relatively few studies into user attitudes towards personalized ads are available. We present a San Francisco Bay Area survey (N=296) and in-depth interviews (N=24) with teens and adults. People are divided and often either (strongly) agreed or disagreed about utility or invasiveness of personalized ads and associated data collection. Mobile ads were reported to be less relevant than those on desktop. Participants explained ad personalization based on their personal previous behaviors and guesses about demographic targeting. We describe both metrics improvements as well as opportunities for improving online advertising by focusing on positive ad interactions reported by our participants, such as personalization focused not just on product categories but specific brands and styles, awareness of life events, and situations in which ads were useful or even inspirational.

INTRODUCTION

Advertising is a pervasive part of many, or even a majority of, current online user experiences. Ads are key to the financial success of many business models, and many users appear comfortable with free online content being supported by advertising [11, 15], even when advertising may be perceived as a negative aspect of online experiences. Understanding the effects that advertising has on user perceptions is of importance to publishers, advertisers, as well as designers of new ad formats. Annoying ads come at a serious cost for users, advertisers, and the advertising medium. Increasing relevance of ads can decrease such annoyance [14] and make ads much more effective [17]. Personalization, as well as contextualized targeting, aim to make advertising more relevant to individual users by adapting ads to user traits, behavior, and user context. However, the relationship between users and such personalized and contextualized ads is complex.

Ad content, perceived relevance, and design features all play crucial roles in user acceptance and engagement [4], as

well as user perceptions of how personal data has been used to target advertising to them [12]. Users find targeting based on online behavior simultaneously useful *and* privacy invasive [15]. A delicate balance has to be found between effective targeting, and not being annoying or invasive.

This study further investigates user attitudes towards personalized advertising using a survey (Bay Area N=296), and 24 interviews, probing into interviewees' personal experiences with ads. We here focus on the qualitative findings in context of the survey results. We include direct reactions to actual advertising content for both in-stream advertising as well as more traditional banner ads. We identify new opportunities for personalization, and user concerns beyond privacy.

BACKGROUND LITERATURE

Personalized ads that adapt to user preferences and interests have advantages such as supporting free access to ad-funded content, reduction in irrelevant ads, and reduced costs of products and decreased search times for products [11]. Ads can be adapted using both implicit user behavior (e.g. based on searches, link clicks, dwell-time) and explicit feedback (e.g. likes, ratings). This can increase engagement and ad effectiveness [17]. It is important to avoid ads being perceived as annoying, or intrusive [14]. Annoying ads not only negatively affect users' experience, they also have a measurable negative effect on task performance [5]. Personalized ads raise additional privacy concerns, and can seem 'creepy'. This especially applies when users perceive that personally identifiable information is used in the adaptation process [11], and suspected data exchange with third parties or advertisers raises user concerns [11,12]. Ur et al. [15] found that participants were more comfortable with advertising based on behavioral tracking if they knew and trusted the internet company that allowed such ads. However, users are not always aware of personalized advertising, nor do they fully understand how such personalization works [1,11]. Ur et al. [15] noted several misconceptions surrounding personalization in their participants - and in general, explaining adaptive systems' behavior is notoriously difficult [3].

Control over personalization mechanisms can be crucial to their acceptance [15]. User control and customizability of advertisements have significant influence on users'

perception of interactivity, which is a strong predictor of attitude toward advertisements [5,10]. However, while more types of ad feedback mechanisms have recently been introduced (e.g. interest managers, 'hide from timeline' on Facebook, Hulu's 'is this ad relevant to you' feature) and studies such as [7] provide useful information on users' understanding of opt-out tools, fairly little work about people's perceptions of ads and user feedback has been published.

We purposely involved teen participants. Teens' online practices and preferences can differ from adult practices, and may offer a hint of future adult audiences' formative ad experiences. Teens have mixed feelings about advertising [7] and 30% of teens report receiving advertising they themselves deem not suitable for their age - whether too mature, and too childish [10]. In comparison to adults, it may appear that teens do not show high levels of concern over third party use of their personal information [10]. However, teens do care about privacy, and use both technical and non-technical strategies in managing their information [11,2].

We add to the existing literature by not only exploring attitudes and practices surrounding personalized ads in general, but also assess reactions to actual ads. This study addresses both mobile and non-mobile web advertising, and includes native ads that intersperse advertising content with regular website content, currently gaining in popularity.

RESEARCH DESIGN

The study consisted of two parts:

- (1) An online survey (Bay Area, N=296) to broadly assess user attitudes towards personalized advertising. Our online survey consisted of mostly 5-point Likert-type scale questions on services and devices used, attitudes towards personalization of ads, partially based on [12]. 296 participants took the first survey, 51% female, 49% male. Ages ranged from 17-87 (M=31, SD=12.6). The sample was higher educated than average: 52% had an associate's degree or higher. 90% reported having a smartphone. The survey informed the design of our subsequent interviews.
- (2) In-depth interviews (N=24) featured both open-ended interviewing and task-based feedback on actual ads on various live apps and websites. Interviews lasted between 60-100 minutes. Our sample included 13 teens (7 male, 6 female, ages 15-18) and 11 adults (6 male, 5 female, ages 27-52). Participants brought their own laptop and (smart)phones. Interviews were semi-structured and split into 4 sections: (1) attitude towards personalization, (2) personal narratives on experiences with (personalized) ads, brands and product interests, (3) visiting three websites or apps on both mobile and laptop, including e.g. Facebook, Yahoo, Gmail, Youtube and a variety of native mobile apps. For each app or site, participants were asked to react to all ads

on screen. For each ad participants were asked whether they perceived as relevant, whether they thought the ads had been personalized to them. (4) existing mechanisms to provide feedback to individual ads, and personal ad interest profiles. All interviews were recorded and transcribed. A thematic analysis was conducted in a process similar to [13]. Note that these qualitative interviews were not meant to be a representative sample, but rather to give rich insights in existing attitudes and behaviors for different people.

SURVEY RESULTS: SPLIT ATTITUDES

Receiving personalized ads as an overall concept appeared to appeal to our survey participants. "I like receiving ads that are personalized to me" scored a slightly positive M=3.5 (SD=1.2, range=1-5, Mdn=4), and "I think ads that are personalized to me are useful" reached a M=3.6 (SD=1.1, range=1-5, Mdn=4). However, similar to 2011 findings [12], we also see distinct groups: 20% (strongly) disagreed, 24% were neutral, and 54% (strongly) agreed that they would like to see ads personalized to them.

Participants found desktop ads more relevant than those on their phones; ("Most of the ads I receive on my computer are relevant to me." M=2.9, SD=1.1, range 1-5. Mdn=3 vs. "on my smartphone" M=2.7, SD=1.1, range 1-5. Mdn=3). While this is a small difference in average scores, and none in medians, perceptions of mobile and laptop do differ (Mann-Whitney U=35,282, Z=-2.66, P<.05). Participants also reported higher levels of attention to ads they receive while browsing on their computer M=3.1, SD=1.2, range 1-5, Mdn=3, than for ads on their mobile (M=2.9, SD=1.2, range=1-5, Mdn=3, T-test, P<.05). Note that the level of reported attention paid to ads and perceived relevance were correlated (computer: Spearman rho=.320, P<.01, mobile: rho=.398, P<.01), as were the perceived usefulness of personalization and perceived relevance (computer: rho=.237, P<.01, mobile: rho=.230, P<.01). Considering that in our sample a large portion 44.6% (strongly) disagreed that the ads they received were relevant to them on their mobiles, and 33.4% (strongly) disagreed that most ads they saw during internet browsing on their computers were relevant, there appears to be a rather large opportunity to improve targeting, especially on mobile.

We wanted to follow up on earlier literature such as [12] to see whether concerns about potential data sharing had changed. The item "I do not care if advertisers collect data about which websites I visit" scored M=2.6, SD=1.2, Mdn=3. This would mean that on average, participants are fairly neutral in their attitudes towards such data collection. However, for both of these questions only 5% reported to not care at all. Again, there appears to be a split in distinct groups, with the group that does care being larger, but with a considerable portion being less concerned, e.g. "I do not care if advertisers collect data about my search terms" M=2.5 (out of 5), SD=1.2, Mdn=2): 51% reported to

(strongly) disagree that they did not care about their search terms being shared, with 21% (strongly) agreeing they did not care. For visited websites, 50% (strongly) disagreed that they did not care, while 24% (strongly) agreed they did not care if this information was shared. Participants reporting less concerns about for example data collection on site visits, also reported a higher perceived relevance of current ads (computer: $\rho=.160$, $P<.01$, mobile: $\rho=.131$, $P<.05$), and perceived personalization as more useful ($\rho=.175$, $P<.003$). Note that these are correlations, and that factors that cause these perceptions have to be further investigated.

In this paper we focus on the concerns and opportunities that underlie these ambivalent attitudes towards personalized advertising.

INTERVIEW QUALITATIVE RESULTS & IMPLICATIONS

Ad preferences vary between individuals based on their comfort with how personalized these ads are and how much attention they pay to the ads they receive. Our data unveiled some nuanced habits and attitudes in regards to the personalization process. We here present recommendations and design opportunities leveraging positive ad experiences: 1) fine-tuning of the personalization by minding not just interest categories but also personal style and timing, leveraging major life events, and improving inter-device personalization 2) increasing transparency and user control with feedback mechanisms, 3) considering specific user behaviors in ad metrics and reducing users' 'anxiety to click'.

Fine-tuning personalization

Many participants had a firm grasp on the economic model used by many companies in which they were provided a free service in exchange for receiving ads, but expressed the same split opinion as in the survey results: *"I understand that a site that provides a free service in some way needs to derive revenue, in some way. [...] but at the same time, I'm also selfish and subjective and I don't want them. I want it for free and without ads. I understand that's illogical."* P10, adult male.

Confirming our quantitative survey findings, non-mobile devices were perceived to have more personalized ads than mobile devices: *"My phone is not that personalized. I think it's pretty much like whatever company wants to put their ad on the app"* – P17 teen male. They themselves sometimes this was caused by their own use of different devices for different things. Laptops were used more often for searching and browsing due to larger screen real estate where as mobile devices were used for specific actions and quick updates: *"the ads I'm seeing on my mobile devices are apps-based and the ads that I'm seeing on my laptop are based upon the sites that I visit. Part of that is also how I use the Internet on the laptop versus a mobile device. [...] What I try to do on mobile devices is use apps that are tailored to do certain things."* – P10, adult male

Many participants did not consider ads to be personalized unless they could think of a specific reason it was shown to them. Participants drew distinctions between ads that might be relevant towards them and personalization. If they had recently searched for an item presented in an ad or if the ad was on a contextually relevant page, it would be considered adapted, otherwise it was seen as just a possible coincidence. In the instances where participants discussed ads they clicked on or purchased an item through, they all thought the ad was particularly relevant or personalized.

Ads as inspirational and personally useful

Participants in the study engaged in advertising specific behaviors based on the type of ad they received. These behaviors were affected by how trustworthy the ad was perceived, if the participants had specifically followed/liked brands or subscribed to email updates from certain brands, and separating their personal preferences for a specific ad rather than the product.

Participants were more accepting towards advertising campaigns they had explicitly chosen to see. The format of subscribing to such campaigns came in the form of either emails from a particular company or following a company on a social media site. Participants often mentioned email advertisements when asked about commonly seen advertising formats. Although this study initially was emphasizing display and video ads alongside web content, the email subscription model was effective for several of our participants. Explicit requesting of these email advertising campaigns were seen as positive. One participant did not think any of his webpage ads were personalized unless he requested for them through email: *"I don't get a whole, whole lot of personalized ads, only when I request them though."* – P2, adult male.

Especially our teen participants did not express doubts over social media as an advertising medium per se, a change from [6]. Additionally, participants, especially the teens, exhibited the practice of following brands on social media such as Facebook, Instagram, and Twitter. The advertising of offers, sales, and information about upcoming news with the company were appreciated: *"I do follow [Lip balm brand] like the Lip gloss balls because they show you where to get the different flavors [...], [coffee shop chain], because they give you coupons sometimes. I follow [coffee brand] because they also give you coupons. That's all the companies I follow. Clothes and stuff because they tell you when the sales [...]. I just follow them for convenience [...]."* – P22, teen female

Following brands on social media was not just for traditional advertising pitches of sales, inventory, and updates. Some participants preferred following brands that promoted not just their product, but lifestyles and present a recognizable human brand voice: *"[...] they kind of post something like normal pictures, that's cool too. I don't like companies or brands that just always market what they are*

trying to sell. I like when they are kind of like, they have a community too like they go out there and have fun and stuff like that. They are human too, not like they're a big corporation.” – P17, teen male

Several of our teen participants mentioned following particular brands, but also using ad material as decorative or inspirational: “*if I’m looking at a fashion magazine and I see an ad I like, or find it inspirational, I’ll put it up on my wall [...] I usually don’t print things off online, but my friends often comment on my wall because it’s covered in pictures.[...]The ones I do cut out are from like [fashion/style] magazine or something, so if I’m trying to be fashion forward [...] I find it inspirational or if it’s a style I want to try or I don’t know.*” – P16, teen female

The preferences and identification with brands and ads used as decoration also changed overtime. One teen for example liked to be an advocate for certain brands by decorating his laptop with their stickers, but was careful about what he wanted to represent: “*There was a, [skateboard clothing brand] sticker but then I didn’t like it [...] so I just covered it [...] Before, I really liked it because no one really knew about it.[...] Then it became really big overnight and a lot of people started buying it and a lot of, people would just wear it to wear it. They didn’t understand the brand that much, they just wore it because it was the hype. [...] I like personal. I like to be separate from the big crowd, you know?*” – P17, teen male. Rather than the brand ‘selling out’, the issue appeared to be that this user did not want to be associated with other people who did not ‘get it’.

Odom, et al. [13] discuss teen bedroom decoration as a means of identity reification, which was mirrored in our findings as some of the teens used marketing material to become brand advocates and displayed their aesthetics, status, and identity. Teens who used stickers, logos as social media profile photos, or desktop backgrounds often did so to display their interests, brand allegiance, and values that accompanied brands (e.g. locally owned, small businesses). Similarly, a teen’s use of collaged magazine advertisements as fashion inspiration could be digitized and reimagined as an interactive interface where users could discover brands and brand offerings they found desirable while providing a new metric for engagement. Leveraging these uses of promotional brand material, ad providers might benefit from thinking beyond typical display ads.

Mind style for both product & ad format

Especially humorous ads (even for ‘irrelevant’ products) were enjoyed and shared by participants; making it important to fine tune not only *what* is advertised, but also *how* it is advertised to individual preferences -with opportunities for the latter perhaps peaking the former. Although an ad might be relevant based on a general interest category, brand allegiance, style, and the timing of the ad determine if the ad is seen as personalized and interesting. This became especially important for fashion-

forward participants who preferred only certain brands of fashion items or styles of clothing. Paying attention to these details of preference would lead to more engagement.

Ads that were personalized or relevant to only a product category, but did not match the participant’s style were disliked: “*it’s relevant because it’s clothing but no it’s not personalized.[...] they’re missing the mark on the fashion end of it.*” – P11, adult male, Brand allegiance was important in these instances, especially with teens. One particular participant searched for deals on sneakers often as they were very important to his identity and personal style. However, when he noticed an ad for a sneaker sale from a large retailer, he stated “*This is irrelevant. I don’t like those type shoes*” and “*I’m one of the [footwear/sports brand] type of person. It’s not what I like so I wouldn’t want it.*” – P18, teen male.

Timing: purchase funnel & life cycle

Timing, duration, and temporary events surrounding the ads received affected their attitude towards receiving ads as well as the willingness to click on ads. Temporality based aspects affecting ad experiences included searching for specific items or events, the act of making a purchase, and major life events. Participants were more likely to report clicking on an ad when the given ad was relevant to a specific item they had recently been researching or intended to purchase. Several participants talked about purchasing an item they would only need every few years, such as vacuums or an insurance policy. However, after the purchase would continue to see ads for the item they purchased or comparable items. The ability to know when a purchase has been made or an item is no longer of interest to a user would reduce the frustration of irrelevant ads. However, if they had already purchased the item they were previously researching they would be frustrated when the ads for that item persisted - unless it was a complimentary item: “*Like I went and I bought [the jacket] so ... show me a shirt that goes with it now, just please.*” – P11, adult male. This illustrates the opportunity in predicting such lifecycles.

Timing: major life events

Major life events provide a large opportunity space. Many users referenced major life events when discussing positive experiences with ads. In these instances, ads served very particular planning purposes and became: “*When I was looking at prom dresses I’d go on a website and I think that it’s probably one of the only times that I’ve clicked on other ads. It’s because I was desperate. It was the week of prom so I was looking for dresses online and I think there were ads and I was just going from website to website trying to find one*” – P16, teen female.

Adapting user ads to these life changes appeared to increase engagement and positive attitudes towards the personalization of online advertisements. These events include, but are not limited to weddings, milestones with

children, employment changes, decisions regarding further education. Each of these major life changes might require a number of new products or awareness of services. Understanding when one of these needs affected by the life change has been met and what other needs the user may still have can provide users with more positive experiences.

User understanding & anxieties

During the interviews, participants were asked to list all of the data they thought was collected for use in personalizing ads. The most popular responses from our participants were search history, visit history, Facebook Likes (although usually considered only collected for ads on Facebook), and email keywords. All of our participants assumed data was being collected about them for the purpose of adaptive advertising but had varying stances on the acceptability of data collection for this purpose: “[...] *I personally recognize that it was a free service and to make money the advertising is shown and so by giving up a little bit of information like that. As long as it's not specific I don't care*” – P5, adult male. This illustrates the need to find out what ‘not specific’ means to users.

Interviewees drew distinctions over what types of data they felt overstepped boundaries of their private lives, even though they expected data to be collected on them by online services. This extends findings on users’ personal strategies in managing online data [2, 10]. During our interviews, several participants expressed an internal conflict about data collection, suggesting that online adaptation raised more concerns than other (personalized) targeting. One primary instance of this was when a participant was sharing his appreciation for personalized grocery offers based on data collected with this loyalty rewards card, but disliked online ad personalization: “...*a loyalty-reward system [...] the more things you buy, the more they can offer you to take advantage of because they want to retain you as a customer, of course. [...] this is actually an oddly interesting comparison, because this is one situation where I love that they know my behavior, my past behavior as opposed to ads where I often find it annoying or intrusive.*” – P10, adult male.

Just like the Indian participants in [1], our US participants worried about social consequences of personalization. For example, P8, a parent, described a hypothetical ‘worst case’ scenario for personalized advertising: “*Perhaps if I was purchasing adult stuff, and [her son] saw the ads [...]. He knows that those ads are personalized. He knows that they come to you because of what you do in there. Yes, that would be extremely embarrassing [...] to explain to him. [...] Mommy doesn't do those things*”

‘Click anxiety’ & confusion

Conceptualizations of what constituted an ad was did not just depend on whether a brand, product or services appeared to be promoted, but also own site content that was perceived as ‘asking for clicks’ rather than relevant for

them. Most interviewees expected to see ads on the right sidebars of pages and banners. Similarly, on mobile pages or apps, users expected to see small advertisements pop up at the bottom or top. As a result content placed in those areas were often mistaken for advertisements: “*It's just such a familiar place to have ads so that it's now become the part of the screen that I've more glance over it [sic] than anything else.*” – P10, adult male.

Participants worried that ads were not always trustworthy and might take them to sites that could compromise their device. Especially teens had a fear of clicking on ads due to previous past negative experiences with viruses or malware from clicking unknown ads and websites, expanding on [6]. In response to this distrust of clicking, users adapted their behavior and found alternative means of exploring interesting advertised companies. Not recognizing brand names was one of the major factors in trust. This led to the practice of searching for the company rather than clicking on the ad: “*Usually, I don't click directly on ads. For example, if I saw that [fashion retail chain] one, I might click on it but I just really go open a new tab and then type in the URL because I just feel like that's safer.*” – P15, teen female.

Accounting for fears as well as new behaviors in engagement metrics and personalization is a challenge, but not engaging in the ‘traditional click-through’ is not necessarily a sign of disinterest. Even when users do not view a complete ad ‘as designed’, advertising can still be effective [9]. Accounting for such behaviors could improve accuracy of engagement metrics. The feasibility of such inclusion depends on whether a publisher or platform can indeed detect such patterns in an effective and efficient way. One such example is taking into account brand-related searches when assessing ad impact, as also demonstrated in [9]. In addition, the perceived risks of interacting with ads can be reduced, for example by using publisher-verified ads, or by keeping users in-site with in-ad interaction. This for example includes interactive brand content within an ad space on the publisher site or within an app itself, rather than requiring going to a landing page on an external brand site for additional information.

CONCLUSION & DISCUSSION

While participants see the usefulness of personalization of ads, there are distinct groups with divergent preferences in which their behaviors may or may not be used, which need to be respected. The interviews highlighted that both teens and adults perceived personalization occurring for a specific ad when they could recall specific prior behaviors that may have affected the personalization. More positive evaluation of relevance of personalized ads occurred when the ads went beyond pure interest-based personalization and instead were attuned to nuanced preferences of style, timing and personal taste.

Publishers need to address user worries and potential confusion about personalized advertising and surrounding content. Respecting personal boundaries, and making it safe to interact with advertising content is vital to ensure that long-term engagement remains in focus. Large-scale quantitative metrics need to reflect the attitudes and behaviors identified in qualitative studies. Ongoing follow-up work, expanding on the interviews and small-scale survey reported here, is exploring such aspects further.

Rather than positioning ads as primarily detrimental to users' experience, publishers and advertisers can leverage the characteristics of those situations where personalized ads were actually perceived as useful – and reduce potential negative experiences. Publisher can provide the user with control, as well as facilitate direct user feedback on interests and specific (dis)liked ads. Beyond perceived relevance of the product or service that is advertised at that specific time within their context, including the advertising medium/website, the engagement and taste for ad content itself are essential (e.g. funny, memorable, inspirational). To ignore the latter, would be to ignore the creative process in ad content itself entails and user practices we observed in this study.

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