Jan H. Schumann, Florian von Wangenheim, & Nicole Groene

Targeted Online Advertising: Using Reciprocity Appeals to Increase Acceptance Among Users of Free Web Services

The Internet is dominated by free web services that depend on advertising revenues and powerful marketing tools to support their business models. Targeted online advertising enables websites to increase their advertising revenues by selectively displaying advertisements according to users' browsing behavior, sociodemographics, and interests. Yet targeting also creates negative consumer reactions, and websites confront increasing regulatory pressures to inform consumers about their practices. It is critical for such advertising-supported websites to address those challenges proactively. In one scenario experiment and two field studies, the authors show that a normative reciprocity argument is generally more effective than the current industry practice of using a utilitarian argument related to advertising relevance to increase acceptance of targeted online advertising. However, in some cases, this dominance switches depending on specific website characteristics such as website utility and level of user-generated content. Managers of free websites should remind their users of the free services they enjoy when asking permission to target them online or to use their personal information.

Keywords: free web services, targeting, advertising, privacy concerns, reciprocity

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> "Personal data is the new oil of the Internet and the new currency of the digital world."
> —Meglena Kuneva, EU Commissioner for Consumer Protection (Kuneva 2009)

The Internet is dominated by free websites that depend on advertising revenues to survive (Anderson 2009). Through targeted advertising, these websites can increase their advertising relevance and effectiveness and, thus, their revenues (Iyer, Soberman, and Villas-Boas 2005). *Targeted online advertising* refers to any form of online advertising that is based on information the advertiser has about the advertising recipient, such as demographics, current or past browsing or purchase behavior, information from preference surveys, and geographic information. Because of its positive effect on revenues, targeted online advertising has emerged as a major marketing trend; overall spending should surpass US$2.6 billion by 2014 (Hallerman 2010).

However, consumers remain highly skeptical of targeted online advertising. Two-thirds of U.S. adults reject behavioral targeting based on their prior search and browsing behavior (Turow et al. 2010), and more than half of online users believe that online tracking should be illegal (Alreck and Settle 2007). Although some studies have investigated users' privacy concerns (e.g., Alreck and Settle 2007; Goldfarb and Tucker 2011, 2012), there is a surprising lack of research into how websites might address these concerns. Such research is particularly necessary in light of recent regulatory initiatives in the United States (Federal Trade Commission 2010) and Europe (European Union 2009) that propose the inclusion of an opt-out tool to help users restrict the collection of information about their web browsing behavior. If websites cannot increase users' acceptance of targeted advertising, they also are likely to suffer from dramatic decreases in advertising revenues.

To increase acceptance of targeted advertising, virtually all global players in this market pursue the dominant strategy of highlighting how targeting increases the relevance of the advertisements people see (e.g., "By bringing content and advertising to you that is relevant and tailored to your interests, Yahoo! provides a more compelling online experi-

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ence"; Yahoo 2013). We refer to this approach as a *relevance argument*. In this negotiated social exchange, the website promises the user more relevant advertising in return for the user's provision of personal data. However, such a utilitarian argument (sometimes referred to as a "benefit appeal"; White and Simpson 2013) might be relatively less effective, because utilitarian benefits have weak effects on users' willingness to disclose personal information online if the sensitivity of this information is high (Mothersbaugh et al. 2012). High information sensitivity also characterizes the context of targeted online advertising, which requires the disclosure of intimate personal behavioral or attitudinal data.

A utilitarian approach also ignores that consumers can be motivated by fairness and reciprocity considerations (e.g., Kim, Natter, and Spann 2009); for example, free web services might appeal effectively to users' normative preferences for distributive justice (e.g., "Your support is required! Our service is free of charge for you—targeted advertisements help us fund it."). We refer to such a strategy as a *reciprocity appeal* approach, defined as a social exchange in which the website highlights its free service provision to elicit users' need to reciprocate by providing personal data for targeting purposes that help the provider finance its free offer. Despite broad evidence of the effectiveness of reciprocity appeals, prior findings have tended to derive from settings in which the two involved parties engage in a direct exchange (e.g., Gneezy et al. 2010; Goldstein, Griskevicius, and Cialdini 2011). Early evidence has suggested that reciprocal behavior might increase considerably if people can observe others reciprocating or if the behavior takes place in front of the solicitor rather than in private (e.g., Alpizar, Carlsson, and Johansson-Stenman 2008). Thus, reciprocal behavior might be less prominent in a web browsing situation. In addition, the "free mentality" (e.g., Dou 2004) on the Internet might further reduce consumers' felt need to reciprocate. Even with these potential obstacles, we posit that the reciprocity argument works in the elusive context of targeted online advertising and can even outperform the utilitarian relevance argument.

Such a proposition not only challenges current industry practices but also contributes to the ongoing debate about normative appeals, fairness, and reciprocity in the marketing, economics, and psychology literature streams (e.g., Alpizar, Carlsson, and Johansson-Stenman 2008; Cialdini and Trost 1998; White and Simpson 2013). However, studies that directly compare benefit appeals with normative appeals are scarce, and the few that have done so focus mainly on descriptive norms (i.e., what others are doing) rather than reciprocity appeals (i.e., norms for reciprocating received benefits; Nolan et al. 2008; White and Simpson 2013).

With a scenario experiment (Study 1) and a field study (Study 2), we show that the normative reciprocity appeal works online. These studies also suggest possible moderating effects of website characteristics, such as advertising informativeness or level of user-generated content. In another large-scale field study (Study 3) featuring 31 free websites, we uncover evidence for such moderating effects. We also identify the relatively rare conditions in which the relevance argument is more effective. It is only through a combination of several website characteristics that such a switch in effectiveness occurs.

Accordingly, the results of this research are highly relevant for marketing practitioners. We show that, in general, appealing to reciprocity outperforms the current industry practice of promising more relevant advertising. Simply changing the argument enables firms to increase consumers' finisher rates by 70%, costlessly. By doing so, websites can establish fewer invitation layers and sell more advertising space, which is significant for this rapidly growing, multibillion-dollar business. Simultaneously, the use of transparent, honest reciprocity arguments can help firms increase users' acceptance of targeted online advertising and reduce regulatory attention.

Our findings make several theoretical contributions. First, we enhance understanding of reciprocity in marketing exchanges by showing that this norm works even in anonymous, online settings. Prior reciprocity research instead has highlighted the importance of social goals, such as conformity or social status, as motivations for reciprocal behavior (Alpizar, Carlsson, and Johansson-Stenman 2008). Our findings show that the reciprocity norm is so strong and deeply rooted that appeals to reciprocity work even in the absence of social control. Users disclose personal information as a form of currency to reward providers of free services, in line with Bagozzi's (1975) broader perspective on marketing exchanges but in contrast with the notion of an overwhelming "free mentality" (Dou 2004) on the Internet.

Second, by showing that reciprocity can increase users' willingness to disclose personal information, we extend research on information provision online (Mothersbaugh et al. 2012; Wirtz and Lwin 2009). Prior research has focused on utilitarian arguments and control and has tended to neglect the normative reciprocity argument as an effective driver.

Third, our findings extend compliance research that has assumed the dominance of reciprocity appeals over negotiated exchanges (Goldstein, Griskevicius, and Cialdini 2011; James and Bolstein 1992). We identify contingency factors that influence the effectiveness of both negotiated exchange (i.e., relevance argument) and appeals to reciprocity. In the context of free web services, several website characteristics determine how effective the relevance argument and appeals to reciprocity will be. Those contingency factors also reveal that in certain conditions, a negotiated exchange can outperform the reciprocity argument.

Fourth, we contribute to research on value cocreation (Vargo and Lusch 2004, 2008), customer coproduction (Bendapudi and Leone 2003; Chan, Yim, and Lam 2010), and customer engagement (Van Doorn et al. 2010) by showing that consumers are aware of the complex exchange processes that underlie the provision of free web services. Most previous research has ignored consumers' perceptions of their own nonmonetary value contributions in value creation networks (Achrol and Kotler 1999). Our findings show that consumers differentiate the value provided by a free service provider and the value that they and other consumers provide by coproducing the free web service and consider this distinction in their willingness to pay (with

personal data). Consumers feel indebted to and reward websites only for the value that the websites create; they react less to reciprocity appeals if the value is generated to a large extent by websites' users instead.

Theoretical Background for Targeted Advertising Acceptance

Advertising Relevance

In line with Laczniak and Muehling (1993), we define relevant advertising as that which is interesting, relevant, and useful to users such that consumers consider it worthy of their attention. A relevance argument thus frames the provision of personal information as a social exchange between a free website and its users: users contribute personal information and accept targeted advertising, and the website offers more relevant advertising. This approach reflects social exchange theory (e.g., Thibaut and Kelley 1959), according to which people evaluate social exchanges in terms of costs and rewards. This subjective evaluation guides subsequent behaviors, so people participate in social exchanges only if their expected rewards outweigh, or at least compensate for, the costs of participating. Accordingly, consumers should accept targeted online advertising if they perceive benefits that are greater than the corresponding cost to their privacy.

Direct mail research has shown that consumers engage in a "privacy calculus" when considering whether to provide personal information; the promise of increased advertising relevance can increase their willingness to provide personal information (e.g., Culnan 1995; Milne 1997). Milne and Gordon (1993) specify that respondents prefer less volume but more targeted mail; Alreck and Settle (2007) emphasize the advantages of targeting as a means to reduce irrelevant advertisements. Therefore, the promise of greater advertising relevance should help websites increase users' acceptance of targeted online advertising.

Reciprocity

Another way to motivate consumers to accept targeted online advertising is to exploit their need for reciprocity, a universal social norm that requires people to return some benefits for any benefits they receive (Gouldner 1960; Leakey and Lewin 1978). This normative argument frames users' acceptance of targeted advertising as a quid pro quo that they accept in return for the website's free service. The norm of reciprocity is clearly motivational; it provokes a person's innate desire to repay a favor, typically driven by a feeling of indebtedness (Greenberg 1980). Firms already make use of the need for reciprocity, such as when charity organizations increase donations by including small presents (e.g., greeting cards) in their solicitations (e.g., Cialdini and Trost 1998; Falk 2007). Research on pay-what-you-want pricing further shows that customers usually expend significantly more than zero cost for a free service (Gneezy et al. 2010; Kim, Natter, and Spann 2009). People are motivated to reciprocate for various reasons, such as to conform to social norms, maintain a positive self-image, and bolster others' views of them (Alpizar, Carlsson, and Johansson-Stenman 2008). Accordingly, people may tend to act less altruistically if they do not observe others' reciprocal behavior and remain anonymous and unobserved. However, we argue that the motivational force of maintaining a positive self-image is strong enough that reciprocity arguments should increase users' acceptance of targeted online advertising, even in the anonymous setting of browsing the Internet.

Why Reciprocity Is the Superior Argument

The relevance argument and the reciprocity argument are two distinct approaches, both designed to motivate users to accept targeted advertisements. Theoretically, both approaches can support this goal, but research on cooperative behavior suggests that the reciprocity argument may be more effective in the context of free websites for three reasons. First, the most critical determinant of cooperative behavior is the extent to which a party has already benefited from a counterpart (Greenberg, Block, and Silverman 1971; Zhang and Epely 2009). Because the reciprocity argument highlights the free service that users already enjoy, it effectively frames clear benefits that customers can evaluate. In contrast, the relevance argument refers to potential future gains (i.e., better advertising), which customers cannot evaluate in advance; therefore, the related benefits are uncertain.

Second, in terms of perceived costs for both parties (Ames, Flynn, and Weber 2004), in social exchanges, both outputs and inputs undergo evaluation to determine whether the exchange is fair (Adams 1965; Aggarwal 2004). The reciprocity argument again seems more effective in that it refers to the website's core service. Users should perceive that providing this service creates high costs for the website, especially compared with the seemingly incremental costs of providing better advertising.

Third, people are much more motivated to cooperate if a strategy is based on a reciprocal rather than a negotiated exchange, even if the reward from the negotiated exchange is greater (Goldstein, Griskevicius, and Cialdini 2011). As James and Bolstein (1992) show, people are more likely to participate in a long survey if they first receive a noncontingent gift of $5 instead of a $50 reward contingent on completing the survey. This stronger compliance in the reciprocal exchange condition occurs because of people's sense of indebtedness and obligation to achieve distributive justice (Wirtz and Lwin 2009). In contrast, people in contingent reward conditions base their decision on how favorable they consider the offer to be (Heyman and Ariely 2004). If consumers are asked to provide sensitive, personal information online, they do not regard a utilitarian promise of customization benefits sufficient (Mothersbaugh et al. 2012). In combination, these findings suggest that the normative reciprocity argument should be more effective than the utilitarian relevance argument. We propose the following:

H_1: A reciprocity argument has a stronger effect on users' acceptance of targeted advertising than does a relevance argument.

Studies 1 and 2: Superiority of Reciprocity over Relevance Arguments

To test H_1, we conducted two studies in which we used different dependent variables. Our research context features both behavioral targeting and predictive behavioral targeting. *Behavioral targeting* refers to targeting based on users' own search and browsing behavior, typically tracked by placing cookies on users' web browsers. "Predictive behavioral targeting," in contrast, refers to extended versions of these behavioral profiles that include users' sociodemographics, interests, and self-reported behaviors, gathered through online surveys. We consider users' acceptance of both types. In Study 1, we test for users' opt-in decisions related to behavioral targeting on a website that provides free content, using a scenario experiment and a survey. We measure users' willingness to opt in together with the effects of relevance and reciprocity arguments on the cognitions and attitudes that motivate that behavior. In Study 2, a large-scale field experiment, we adopt users' participation in a predictive behavioral targeting survey and their provision of personal information for targeting purposes as the dependent variable. In doing so, we test for external validity and establish the managerial relevance of the proposed effect. Web Appendix W1 offers an overview of the research designs of both studies.

Study 1

Study design and sample. We employed a 2 (relevance vs. neutral) × 2 (reciprocity vs. neutral) × 2 (high control vs. low control) between-subjects experimental design and administered an online study with a scenario technique and a subsequent online survey. The high–low control condition accounted for the influence of this relevant covariate (Mothersbaugh et al. 2012). In January and February 2010, we recruited respondents with the help of a professional market research firm. To qualify for the survey, potential respondents answered a set of demographic questions, which enabled us to recruit a representative sample of German website users. The respondents were randomly assigned to one of eight experimental conditions and ultimately provided 408 data points (8 manipulations × 51 completed surveys).

The study began by exposing the respondents to a real screenshot of a popular German news website (similar to www.cnn.com) and instructions to imagine that they were browsing this website. The screenshots varied between culture and finance topics and featured real advertisements. In addition, they were recent, so both the content and the advertising supported the realism of the scenario. Next, the participants were exposed to the experimental treatment, in which they saw a flash layer that overlapped parts of the news website and contained a text message with a short greeting ("Dear visitor…") as well as additional text that varied in each experimental condition. Table 1 provides the text from the eight conditions; all paragraphs were short, required only minimal reading ability, and had been pretested for comprehensibility. Finally, all flash layer messages concluded with the phrase "We would like to hear your opinion on this. Please click 'continue'" (for detailed manipulation checks, see Web Appendix W2). All respondents also accessed a survey that included a question about their willingness to opt in to behavioral targeting, assessed control variables, and tested user cognitions as potential mediators.

Measures. The Appendix lists the items, their origins, and the criteria we used to assess the scale constructs. We operationalized acceptance of behavioral targeting as voluntary, informed consent to opt in to behavioral targeting (Malhotra, Kim, and Agarwal 2004). For the tests of user cognitions as potential mediators, we measured participants' anticipations of advertising relevance and need for distributive justice. The relevance anticipation measure came from Laczniak and Muehling's (1993) scale. We followed Wirtz and Lwin (2009) to operationalize the need for distributive justice but adapted the measure to pertain to website output. To assess perceived procedural justice (i.e., fairness of procedures and how they are enacted; Thibaut and Walker 1975), we used a scale adapted from Wirtz and Lwin (2009). As covariates, we assessed Internet affinity (Neelamegham and Jain 1999), general concern for privacy (Dinev and Hart 2006), general attitude toward advertising

TABLE 1
Description of Study 1 Treatments

Constructs	Treatment	Neutral Condition
Reciprocity	We are happy to offer you the **latest news** and **articles for free**. That is possible because we **show you advertisements** in exchange. Only this way can we keep our offering free of charge.	We are happy that you are visiting our website. Here, we offer **the latest news** and **articles** to you. Besides, **we display advertisements to you**.
Relevance	We would like you to view **advertisements you are interested in**. For example, if you read a lot about travel, you will see more advertisements on vacations offerings and fewer advertisements on other topics.	We would like to give our advertisers the possibility to **reach their target group**. Those visitors who read a lot about travel should see more advertisements on vacation offerings and fewer advertisements on other topics.
Control	In order to do so, we evaluate your surfing behavior based on unidentifiable information. We do not draw any conclusions regarding your identity. [How does this work?] [Privacy Policy]. You can **see, edit or delete the information stored on you** at any time at My Information.	In order to do so, we evaluate your surfing behavior based on unidentifiable information. [How does this work?] We assure you that **we do not draw any conclusions regarding your identity**. [Privacy Policy]

(Pollay and Mittal 1993), and satisfaction with the website (Chen and Wells 1999). All the items used seven-point Likert scales (1 = "strongly disagree," and 7 = "strongly agree"). Finally, we collected data about the respondents' education, gender, and age. The original scales were in English, but the questionnaire was in German, so we used back-translation to ensure equivalence (Brislin 1970). The correlations between the constructs were acceptable, and all scales achieved discriminant validity according to Fornell and Larcker's (1981) criterion (see Web Appendix W3). The composite reliability scores were greater than the recommended level of .60.

Hypothesis tests. We tested the hypothesis with the MEDIATE procedure proposed by Preacher and Hayes (2008), which can test all individual direct and indirect effects in a multiple mediator model. Our overall model used acceptance of behavioral targeting as the dependent variable. The independent variables were the three manipulated conditions—relevance, reciprocity, and control—as well as the covariates: website topic, Internet affinity, general concern for privacy, general attitude toward advertising, age, gender, education, and satisfaction with the website. We included relevance anticipation, need for distributive justice, and perceived procedural justice as additional potential mediating variables that the manipulations should have aroused (Table 2). The dependent variable model (Model 1) showed that the relevance argument had no significant effect ($\beta = .02$, n.s.), whereas the reciprocity argument had a strong positive effect ($\beta = .51$, $p < .001$) on participants' acceptance of behavioral targeting. The difference was statistically significant ($t(406) = 2.25$, $p < .05$), in support of H_1. In the mediator models, we also found that relevance did not exert a significant impact on relevance anticipation ($\beta = .01$, n.s.; Model 2), so there could be no indirect effect of relevance on the acceptance of behavioral targeting through this route (effect = –.04, lower-level confidence interval [LLCI] = –.125, upper-level confidence interval [ULCI] = .021; Model 5). The relevance argument even exerted a negative effect on perceived procedural justice ($\beta = –.28$, $p < .05$; Model 4), which fully mediated the subsequent significant negative effect on users' acceptance of behavioral targeting (effect = –.05, LLCI = –.128, ULCI = –.004; Model 7). The reciprocity argument led to a higher predicted need for distributive justice ($\beta = .45$, $p < .01$; Model 3). The indirect positive effect on acceptance of behavioral targeting was partially mediated by users' need for distributive justice (effect = .10, LLCI = .024, ULCI = .201; Model 6).

Study 2

Research design and sample. To test for the external validity of H_1 and confirm it in relation to actual information provision behavior, we conducted a between-subjects field experiment. In cooperation with a large German advertising network, we tested user responses to relevance versus reciprocity arguments (for the design, see Web Appendix W1). This study featured two free websites: a renowned news website (similar to www.cnn.com) and a peer-to-peer query community (similar to www.ask.com) on which users ask and answer questions. As part of the field experiment, we included our survey in a regular, predictive behavioral targeting survey. In May 2010, the two websites displayed to 119,301 random visitors invitations to participate in a predictive behavioral targeting survey, in a small flash layer (3 × 3 inches) as an experimental treatment. The teaser text appeared immediately after visitors entered the website.

The manipulation showed one of two teasers (i.e., the treatment) focused on either relevance or reciprocity. In the relevance condition, we used an existing teaser from our industry partner: "Make advertising more individual! You will see more interesting and less irrelevant advertisements in the future. Answer a couple of questions on your interests and your media usage (Duration: 5 minutes)." For the reciprocity condition, we developed new text that was similar in length and complexity but instead read, "Your support is required! Our service is free of charge for you—targeted advertisements help us fund it. Answer a couple of questions on your interests and your media usage (Duration: 5 minutes)" (for the manipulation checks, see Web Appendix W2). Users who clicked on the flash layer were directed to a page that explained how their information would be used for targeting purposes. The manipulated flash layers were displayed to relatively equally sized groups of randomly chosen visitors on each website (news: $N_{relevance} = 19{,}566$, $N_{reciprocity} = 19{,}721$; query: $N_{relevance} = 40{,}114$, $N_{reciprocity} = 39{,}900$). Of these potential participants, 1,102 users clicked on the survey instead of closing the flash layer, reflecting a click rate of .92%. As is common in predictive behavioral targeting surveys, we asked respondents for information about their interests in specific products, shopping habits, media usage, and sociodemographic information but not about personally identifiable data. In total, 261 participants completed the survey without any missing values, indicating a dropout rate of 76.32%. According to our research partner, the completed surveys came from respondents whose sociodemographic variables were representative of both websites. We tested H_1 using both the percentage of users who clicked on the flash layer and the percentage of users who completed the survey.

Click rates. On both websites, the click rates in the reciprocity condition were significantly higher than those in the relevance condition (news: $\chi^2(1) = 99.52$, $p < .001$; query: $\chi^2(1) = 43.53$, $p < .001$). On the news website, the click rate of .88% with the relevance teaser increased to 2.10% with the reciprocity teaser. In the query community, it increased from .46% to .83%. Thus, in support of H_1, users in the reciprocity condition were 2.39 (news) and 1.80 (query) times more likely to participate in the predictive behavioral targeting survey than were those in the relevance condition.

Finisher rates. A higher click rate only provides more profiles if the positive effect of reciprocity arguments on the click rate is not offset by a decrease in people who finish the survey. The reciprocity effect increased significantly after the clicks (news: $\chi^2(1) = 21.39$, $p < .001$; query: $\chi^2(1) = 16.49$, $p < .001$). On the news website, the finisher rate rose from 19.76% in the relevance condition to 39.61% in the reciprocity condition. Users who clicked on the flash layer containing the reciprocity argument were 2.01 times more

TABLE 2
Analysis of Mediating Effects in Study 1

A: Model 1: Dependent Variable Model (Acceptance of Behavioral Targeting)

	B	SE	t-Value	*p*-Value
Constant	–.25	.70	–.36	.717
Relevance	.02	.16	.11	.910
Reciprocity	.51	.15	3.31	.001
Control	.37	.15	2.40	.017
Covariates				
Relevance anticipation	.38	.06	6.08	.000
Need for distributive justice	.22	.06	3.69	.000
Procedural justice	.18	.07	2.50	.013
Topic of website (0 = finance, 1 = culture)	.11	.15	.70	.481
Internet affinity	.08	.08	1.12	.263
General privacy concerns	–.27	.06	–4.61	.000
Attitude toward advertising	.02	.06	.37	.714
Gender (0 = female, 1 = male)	–.21	.16	–1.32	.188
Age	.09	.06	1.45	.148
Education (0 = lower, 1 = higher)	–.28	.17	–1.67	.096
Satisfaction with website	.11	.05	2.02	.044
R-square		.38		
F		17.51		
d.f.1/d.f.2		14/393		
p-value		.001		

B: Model 2: Mediator Variable Model (Relevance Anticipation)

	B	SE	t-Value	*p*-Value
Constant	1.29	.59	2.19	.029
Relevance	.01	.14	.10	.924
Reciprocity	.13	.13	.94	.349
Control	.03	.13	.22	.828
Covariates (Omitted from table for brevity)				
R-square		.25		
F		11.85		
d.f.1/d.f.2		11/396		
p-value		.001		

C: Model 3: Mediator Variable Model (Need for Distributive Justice)

	B	SE	t-Value	*p*-Value
Constant	1.13	.65	1.74	.083
Relevance	–.19	.15	–1.27	.205
Reciprocity	.45	.15	3.07	.002
Control	.02	.15	.15	.879
Covariates (Omitted from table for brevity)				
R-square		.21		
F		9.39		
d.f.1/d.f.2		11/396		
p-value		.001		

D: Model 4: Mediator Variable Model (Procedural Justice)

	B	SE	t-Value	*p*-Value
Constant	2.71	.50	5.43	.000
Relevance	–.28	.11	–2.48	.014
Reciprocity	.18	.11	1.57	.117
Control	.31	.11	2.72	.007
Covariates (Omitted from table for brevity)				
R-square		.21		
F		9.80		
d.f.1/d.f.2		11/396		
p-value		.001		

E: Model 5: Indirect Effects Through Relevance Anticipation

	Effect	SE[a]	LLCI	ULCI
Relevance	.01	.05	–.095	.108
Reciprocity	.05	.05	–.048	.160
Control	.01	.05	–.089	.115

F: Model 6: Indirect Effects Through Need for Distributive Justice

	Effect	SE[a]	LLCI	ULCI
Relevance	–.04	.04	–.125	.021
Reciprocity	.10	.04	.024	.201
Control	.01	.03	–.064	.072

G: Model 7: Indirect Effects Through Procedural Justice

	Effect	SE[a]	LLCI	ULCI
Relevance	–.05	.03	–.128	–.004
Reciprocity	.03	.03	–.007	.096
Control	.06	.03	.006	.140

[a]Standard errors from the mean result of the bootstrapping procedure.
Notes: N = 408; number of bootstrap resamples = 5,000; LLCI = lower-level confidence interval; ULCI = upper-level confidence interval.

likely to complete the survey than those who clicked on the relevance argument. For the query community, the parallel finisher rate rose from 4.35% to 16.57%, implying an odds ratio of 3.81. This finding again confirmed H_1.

Discussion

The findings of Studies 1 and 2 provide strong support for our claim that in the context of free web services, a reciprocity argument outperforms an argument based on the promise of relevant advertising as a means to increase users' acceptance of targeted online advertising. The reciprocity argument increased the likelihood both to opt in for behavioral targeting and to disclose personal information for predictive behavioral targeting purposes.

Although these findings consistently support our hypothesis, they also imply some surprising aspects. In

Study 1, we found that the relevance argument did not lead to higher relevance expectations or to greater acceptance of behavioral targeting. These results suggest that the participants did not believe that opting in for behavioral targeting would increase the relevance of advertising they received in the future. This skepticism might have arisen because the focal website was a popular news website; its strong traffic and large customer base led mostly large, popular brands to advertise on the site. Skepticism toward the relevance claim also had negative effects on users' perceptions of the website's procedural justice and an indirect negative effect on their acceptance of behavioral targeting.

Study 2 also supported the notion that website characteristics might moderate the effect of the different arguments on users' acceptance of targeted advertising; we found that the reciprocity argument was significantly more effective in the context of the news website than in the query website (Δclick rate = 59%; $\Delta\chi^2(1) = 4.90, p < .001$). In the query community, users coproduce the core service through user-generated content (i.e., asking and answering questions), which may make the reciprocity argument less effective for creating a feeling of indebtedness, especially compared with the news website, which provides professional, high-quality content. Therefore, we conducted another study to investigate the potential contingency effects for both arguments and identify the boundary conditions of the reciprocity argument through a major field experiment.

Contingency Factors for the Effectiveness of Both Arguments

To elucidate the potential reasons for differences in the effectiveness of relevance and reciprocity arguments, we consider their functioning in relation to a free website in more detail. By highlighting that users receive a benefit from better advertising, the relevance argument primarily pertains to the advertisements, so its effectiveness should be based on advertising characteristics. The reciprocity argument instead pertains to the exchange between the website and the user. From the user's point of view, the website comprises content (the reason to visit the website) and advertisements. Therefore, the effectiveness of the reciprocity argument should be based on both advertising and website characteristics. The hypotheses that follow reflect this difference; that is, we do not hypothesize moderating effects of website characteristics on the effectiveness of the relevance argument.

Advertising Characteristics: Clutter and Informativeness

As we outlined previously, the relevance argument reflects the notion that the benefits of seeing more relevant advertising compensate users for their costs of providing personal data. However, the attractiveness of this conditional exchange, and thus the likelihood that users agree, depends on how favorable users consider this offer (Heyman and Ariely 2004). A factor that can influence the attractiveness of the relevance argument is the level of advertising clutter, which we define as "the presence of a large amount of noneditorial content in an editorial medium" (Ha and McCann 2008, p. 570). According to overload theory, greater advertising clutter makes advertising less effective because consumers have limited information-processing capacities (Ha and McCann 2008; Malhotra, Jain, and Lagakos 1982). They try to focus their limited capacities on their core object of interest, the editorial content, rather than on the advertising around it (Smith and Buchholz 1991). With this limited attention, users simply are less aware of advertising content (Cialdini, Petty, and Cacioppo 1981; Petty and Cacioppo 1986) such that their relevance perceptions should be lower as well. Consequently, users of a website with greater advertising clutter should observe more room for enhanced relevance and be more responsive to this promise than are users of websites with less advertising clutter.

In contrast, the reciprocity argument assumes that the exchange is more attractive to users when the benefits received from the exchange partner are high. We thus propose a generally negative effect of advertising clutter on the effectiveness of the reciprocity argument. Advertising distracts users from their original browsing intentions (Cho 2004), so they should perceive high levels of advertising clutter as costs. The more advertising users see and the higher the impediment costs, the less users may feel obliged to participate in the exchange by completing a predictive behavioral targeting survey or providing personal data. Advertising clutter also can have negative effects on perceptions of editorial quality (Ha and Litman 1997), which should reduce users' willingness to reciprocate. Therefore, we predict the following:

H_{2a}: Advertising clutter moderates the effect of the relevance argument on users' acceptance of targeted advertising such that websites with more advertising clutter provoke more acceptance of targeted advertising than websites with less advertising clutter.

H_{2b}: Advertising clutter moderates the effect of the reciprocity argument on users' acceptance of targeted advertising such that websites with more advertising clutter provoke less acceptance of targeted advertising than websites with less advertising clutter.

Another factor may relate directly to the effectiveness of the relevance argument: perceived advertising informativeness, or the extent to which users consider the advertising currently displayed on the website interesting (Ducoffe 1996). Advertising informativeness is one aspect of the perceived overall value that people derive from advertising (Ducoffe 1995), and it depends on the type of information communicated (Soley and Reid 1983) as well as editorial–advertisement congruence (Edwards, Li, and Lee 2002). Perceived advertising informativeness reduces users' perceptions of intrusiveness and avoidance behavior (Edwards, Li, and Lee 2002); it also exerts a strong effect on overall attitudes toward advertising in general and Internet advertising in particular (Schlosser, Shavitt, and Kanfer 1999). Advertising informativeness relates conceptually to the promise of more relevant advertising, in that users should perceive more informative advertising as more relevant. Therefore, websites with high levels of informative adver-

tising should induce less responsiveness to the relevance argument, because consumers likely find little room for improvement and consider the argument for more relevant advertising unconvincing. In contrast, consumers viewing websites with uninformative advertising should imagine greater benefits of more relevant advertising and be more likely to react to this claim.

For the reciprocity argument, we predict a contrary effect: on websites characterized by high advertising informativeness, consumers should consider the advertising valuable (Schlosser, Shavitt, and Kanfer 1999), which in turn increases the benefits received from the website (Ducoffe 1995, 1996). Thus, high levels of informative advertising should increase consumers' need for reciprocity, because the website provides more benefits than does a website with noninformative advertising (Greenberg, Block, and Silverman 1971; Zhang and Epely 2009). In contrast, if advertising informativeness is low, it should lessen consumers' feelings of indebtedness toward the website. Thus:

H_{3a}: Advertising informativeness moderates the effect of the relevance argument on users' acceptance of targeted advertising such that websites with greater advertising informativeness provoke less acceptance of targeted advertising than websites with lesser advertising informativeness.

H_{3b}: Advertising informativeness moderates the effect of the reciprocity argument on users' acceptance of targeted advertising such that websites with greater advertising informativeness provoke more acceptance of targeted advertising than websites with lesser advertising informativeness.

Website Characteristics: Utility, Quality, and Level of User-Generated Content

The reciprocity argument posits that users benefit from free services and thus are motivated to collaborate (Greenberg 1980). However, these feelings and the resulting need to provide quid pro quo arise only if users believe they have benefited from the service (Greenberg, Block, and Silverman 1971; Zhang and Epely 2009). In the context of web services, elements that determine the level of perceived benefits, and thus the need for reciprocity, include the website's perceived utility (Chen and Wells 1999; Sutcliffe 2002) and perceived quality (Lee and Kozar 2006; Ngai 2003). The perceived utility of the website is the extent to which the website content matches users' needs and wants (Sutcliffe 2002). According to the uses-and-gratifications approach, consumers seek specific forms of mass communication to meet their specific needs and return to a channel only if it satisfies their needs (Hausman and Siepke 2009; Katz, Gurevitch, and Haas 1973). Following Zeithaml (1988), we define the overall perceived quality of the website as users' assessments of the overall excellence or superiority of the website's service provision, encompassing perceptions of its design, content, or technical adequacy (Aladwani and Palvia 2002; Kim and Niehm 2009). Because website utility and quality represent benefits that users receive for free, they should increase the effectiveness of the reciprocity argument for targeting acceptance. That is:

H_4: Website utility moderates the effect of the reciprocity argument on users' acceptance of targeted advertising such that websites with greater utility provoke greater acceptance of targeted advertising than websites with lesser utility.

H_5: Website quality moderates the effect of the reciprocity argument on users' acceptance of targeted advertising such that websites with higher quality provoke greater acceptance of targeted advertising than websites with lower quality.

Consumers' feelings of indebtedness and obligation also depend on their perception of the costs to the website of providing free service (Ames, Flynn, and Weber 2004). In line with consumer value research (Bolton and Drew 1991; Zeithaml 1988), we argue that users form general opinions about free websites' costs, which influence their perceptions of the value they derive from their services. These value perceptions likely depend on the extent to which users cocreate the websites' offerings.

Recent research on value cocreation (Vargo and Lusch 2004, 2008), customer coproduction (Bendapudi and Leone 2003; Chan, Yim, and Lam 2010), and customer engagement (Van Doorn et al. 2010) has acknowledged that customers willingly contribute to firms' offerings in various ways. Free websites that rely on user-generated content constitute value creation networks, in which both the website and its users coproduce the overall service experience (Achrol and Kotler 1999; Lusch and Vargo 2006). User-generated content consists of opinions, experiences, or advice in the form of text, videos, or podcasts, among others (Krishnamurthy and Dou 2008). Websites vary substantially in the extent to which they engage users in service coproduction. For example, news websites mainly feature content produced by professional journalists, but social networks and peer-to-peer communities include substantial amounts of user-generated content for which users serve as "partial employees" (Mills and Morris 1986). We therefore define level of user-generated content as the extent to which users contribute content and cocreate the value that they and other users can derive from the free website. We predict that users differentiate the sources of the overall value they enjoy and consider these distinct sources when they evaluate the costs to the website of providing its free service. Users of websites with more user-generated content likely understand that the value they derive depends on not just the website provider but also its users' contributions; thus, they should feel less indebtedness toward the website and react less favorably to reciprocity arguments than users of a website with low levels of user-generated content. Formally:

H_6: The level of user-generated content on a website moderates the effect of the reciprocity argument on users' acceptance of targeted advertising such that websites with more user-generated content provoke lower acceptance of targeted advertising than websites with less user-generated content.

Boundary Conditions of the Superiority of the Reciprocity Argument

Prior compliance research (Goldstein, Griskevicius, and Cialdini 2011; James and Bolstein 1992) has suggested that reciprocity always outperforms a negotiated exchange (i.e.,

the relevance argument). This finding derives from situations in which people receive monetary payments or donations with constant difference between these benefits. We instead compare the perceived value derived from free services with the promise of more relevant advertising. The findings from Studies 1 and 2 furthermore suggest that website characteristics influence the perceived value of the free services, as well as the perceived attractiveness of the promise of more relevant advertising, such that they also might influence the effectiveness of the reciprocity and relevance arguments. If we can affirm the contingency factors detailed in H_2–H_6, we also must predict that in some cases, website characteristics support the relevance argument and counteract the reciprocity argument such that the former is more effective than the latter. Thus:

H_7: The relevance argument is more effective than the reciprocity argument on websites characterized by (a) less attractive advertising, (b) more advertising clutter, (c) higher website utility, (d) higher website quality, and (e) less user-generated content.

Study 3

Study context and design. To test our hypotheses, we conducted an extensive between-subjects field study in cooperation with two publisher networks and a provider of targeted online advertising solutions in Germany. The study, conducted in March 2012, included 31 free websites that spanned a variety of topics, including news, sports, music, fashion, health, television, and computers, as well as specific formats, such as video channels, social communities, query communities, or other information sites (see Web Appendix W4). Moreover, the 31 websites targeted specific age groups and featured gender-specific topics. In a setup similar to Study 2 (see Web Appendix W1), this investigation was part of a regular, predictive behavioral targeting survey.

The experimental manipulation involved two flash layer invitations, which used either the relevance or the reciprocity argument. Across the 31 websites, 5,117,741 randomly chosen, distinct users were invited to participate, spread relatively equally across the two experimental conditions ($N_{relevance}$ = 2,610,672; $N_{reciprocity}$ = 2,507,069). The relevance manipulation read, "We are interested in your opinion! Make advertising more interesting for you!" The reciprocity manipulation instead indicated, "Help us to keep our service free of charge! Our service is free of charge for you—targeted advertising helps us to better finance it!" Both manipulations concluded, "We would be happy if you could invest some minutes of your time to answer some simple questions. Of course all information will be treated confidentially and analyzed anonymously. Thank you very much!" The wording of the manipulations differed slightly from the teasers in Study 2 because we adjusted them to reflect the relevance teaser that our collaboration partner used and meet its preferences regarding the wording of the reciprocity teaser (for manipulation checks, see Web Appendix W2). As in our previous studies, we began by obtaining respondents' sociodemographic information. Subsequent scales measured consumers' attitudes and perceptions of the websites, so we could test the moderation hypotheses. For the dependent variable, acceptance of predictive behavioral targeting, we used the number of users who clicked the flash layer and completed the survey.

Pretests. We developed many of the scales we used to assess the contingency factors specifically for this study; we used pretests to confirm their reliability and validity. We translated and back-translated the scales adapted from other studies (Brislin 1970). Knowledgeable researchers assessed all scales, evaluating how well the items matched the constructs. Next, we asked 30 randomly selected users to indicate any items they found ambiguous or difficult to understand. Only minor modifications were necessary. Finally, we pretested the scales with a sample of 71 users in a field pretest. The scales provided satisfactory results in terms of reliability and discriminant validity and required no further modifications. The assessments of the measures in the final sample confirmed these findings.

Measures. The Appendix provides an overview of the items, their origins, and the quality criteria. We operationalized advertising clutter with a self-developed, single-item measure[1] of the relative level of advertising in comparison with other websites, because it is a relative rather than an absolute phenomenon (Ha and Litman 1997). We used a self-developed item to measure advertising informativeness. For website utility, we used a three-item scale from Chen and Wells (1999), which we extended and adapted to the context of targeted advertising. For website quality and the level of user-generated content, we used self-developed three-item scales. "Website quality" refers to the content and design of the site, together with an overall assessment. Finally, the level of user-generated content measure determined the extent to which users were actively involved in the production of websites' content as well as their value for the user. The descriptive statistics of the key constructs revealed that the correlations were acceptable (see Web Appendix W5); we also confirmed the discriminant validity of all the scales.

Data set and sample. Analogous to Study 2, the data set consists of different levels. For the number of overall impressions (N = 5,117,741), we lacked information about the sociodemographic characteristics or attitudes of the respondents. On the level of the click-through rates for each condition, we determined that 23,594 visitors clicked on the invitation teaser, representing an overall response rate of .46%. Compared with Study 2 (which took place two years earlier), this substantially lower rate reflects reports of declines in users' online information provision (Goldfarb and Tucker 2011). Of these 23,594 visitors, 5,015 finished the survey with no missing values, for an overall dropout

[1]We recognize the ongoing debate surrounding the use of single- versus multi-item measures in marketing research, especially for major constructs. However, because our field study was embedded in a regular, predictive behavioral targeting survey, we aimed to minimize defection rates by keeping the research-relevant questions as concise as possible. Rossiter (2002) suggests that a single-item measure is appropriate if the object being rated is simple and unambiguous, as is the attribute on which the object is being rated, for all raters. We believe that advertising clutter and advertising informativeness are both relatively simple and unambiguous constructs for consumers to judge.

rate of 78.75%, similar to that of Study 2. Our sample represents the overall German Internet population well; we find little evidence of a response bias (see Web Appendix W6). Our sample includes slightly more male and more educated users than the average Internet population, likely due to the websites' characteristics.

The data pertaining to the contingency factors were gathered from the respondents in our experimental design, which implies a potential bias. Although our sample was representative of the German online population, we also conducted further analyses. With a subsample of 14 websites, we compared the experimental contingency factor data with data from a survey that was not part of the research design. Overall, we obtained information from 9,193 users with characteristics similar to those of our experimental sample. For both the experimental sample and the participants in the unrelated survey, we calculated the means of the five contingency factors for each website. Using these means, we then calculated Spearman's ρ for each contingency factor. The Spearman's ρs of all contingency factors were greater than .85 and significant at the .001 level, which indicates high consistency in the ratings of websites across groups. This finding supports the external validity of the website ratings. For more information, see Web Appendix W4.

Hypothesis tests. We tested whether H_1 holds in this much larger data set. The click-through rates were significantly higher in the reciprocity condition (.55%) than in the relevance condition (.39%; $\chi^2(1) = 676.09$, $p < .001$). Participants in the reciprocity condition were 1.41 times more likely to participate in the predictive behavioral targeting survey than those who viewed the relevance argument. In the finisher rates, the difference between the two conditions increased. The reciprocity condition (22.00%) led to 1.13 times as many finishers as the relevance condition (19.49%; $\chi^2(1) = 22.28$, $p < .001$). These results thus support H_1 and show that the reciprocity argument tends to outperform the relevance argument for increasing users' acceptance of predictive behavioral targeting.

To test our contingency hypotheses, we conducted extreme group comparisons. That is, we identified eight websites with particularly high or low (upper and lower quartile) rates of responses to the reciprocity or relevance arguments and then compared the associated levels for the contingency factors in these groups. To test H_{2a} and H_{3a}, we identified eight websites with the highest ($M_{high} = .007$, SD = .002) and lowest ($M_{low} = .002$, SD = .001; $t(14) = -7.80$, $p < .001$) click-through rates for the relevance teasers and compared the means of the proposed contingency factors. The t-test results in Table 3 show that websites with higher

TABLE 3
Tests on Contingency Factors and Boundary Conditions

A: Relevance Argument: Between-Groups Differences in Website Characteristics Between High and Low Response Groups

		High Click-Through Rate		Low Click-Through Rate				
		M	SD	M	SD	t-Value	d.f.	*p*-Value
H_{2a}	Advertising clutter	2.90	1.10	2.66	.99	8.58	6,353	.000
H_{3a}	Advertising informativeness	2.12	1.06	2.36	1.03	–8.47	6,356	.000
	Website utility	3.23	1.11	3.16	1.05	–1.26	7,936	.207
	Website quality	3.22	1.08	3.29	1.02	–2.46	7,207	.014
	Level of user-generated content	2.70	1.02	2.84	.99	–5.76	7,710	.000

B: Reciprocity Argument: Between-Groups Differences in Website Characteristics Between High and Low Response Groups

		High Click-Through Rate		Low Click-Through Rate				
		M	SD	M	SD	t-Value	d.f.	*p*-Value
H_{2b}	Advertising clutter	2.88	1.05	2.85	1.10	1.07	5,876	.283
H_{3b}	Advertising informativeness	2.25	1.06	2.13	1.10	3.91	5,887	.000
H_4	Website utility	3.24	1.10	2.99	1.07	9.41	7,354	.000
H_5	Website quality	3.24	1.04	3.03	1.07	7.78	6,664	.000
H_6	Level of user-generated content	2.64	1.02	2.96	1.03	–12.27	7,137	.000

C: Between-Groups Differences in Website Characteristics Between Relevance- and Reciprocity-Dominant Groups

		Relevance-Dominant		Reciprocity-Dominant				
		M	SD	M	SD	t-Value	d.f.	*p*-Value
H_{7a}	Advertising informativeness	1.95	1.06	2.20	1.05	8.01	15,600	.000
H_{7b}	Advertising clutter	2.92	1.14	2.87	1.06	–1.55	15,591	.122
H_{7c}	Website utility	2.95	1.07	3.42	1.09	16.19	18,964	.000
H_{7d}	Website quality	2.95	1.06	3.39	1.04	15.48	17,406	.000
H_{7e}	Level of user-generated content	2.94	1.00	2.67	1.02	–10.17	18,419	.000

click-through rates for the relevance teasers were associated with higher levels of advertising clutter and lower levels of advertising informativeness, in support of H_{2a} and H_{3a}. In addition, we tested for differences in website characteristics. Although we found no differences in website utility perceptions between the high and low relevance reaction groups, websites that prompted higher click-through rates for the relevance teasers were associated with lower website quality and lower levels of user-generated content.

In further extreme group comparisons, we tested H_{2b}, H_{3b}, H_4, H_5, and H_6 for the reciprocity argument. We compared the websites with the highest (M_{high} = .009, SD = .002) and lowest (M_{low} = .002, SD = .001; t(14) = –9.95, $p < .001$) click-through rates for reciprocity. The results of the t-tests indicated no difference in advertising clutter between websites with high and low click-through rates for the reciprocity argument (Table 3); thus, our data did not support H_{2b}. However, in support of H_{3b}, websites with higher click-through rates in response to the reciprocity argument were associated with greater advertising informativeness. In line with H_4, H_5, and H_6, websites with higher click-through rates for the reciprocity arguments were associated with higher website utility, higher website quality, and less user-generated content than were the sites that invoked lower click-through rates in response to the reciprocity arguments.

To test H_7, we divided the 31 websites into 27 that supported the superiority of reciprocity and 4 that indicated the dominance of the relevance argument. As we show in Table 3, users of the 4 websites with higher click-through rates for the relevance argument viewed less attractive advertising, lower utility, lower quality, and higher levels of user-generated content than did the users of the 27 websites with higher click-through rates for the reciprocity argument, in support of H_{7a}, H_{7c}, H_{7d}, and H_{7e}. However, we found no significant difference in advertising clutter, so we must reject H_{7b}.

Discussion

The results of Study 3 again support our hypothesis that, in general, the reciprocity argument outperforms the relevance argument. We confirm that the effectiveness of the two arguments is contingent on certain website characteristics; in relatively rare conditions, the relevance argument can outperform the reciprocity argument. We also obtained some surprising results. Although we did not expect a relationship between website characteristics and the relevance argument, we found that high response rates to the relevance argument were associated with low website quality. Users did not strictly differentiate website content and advertising, so they reacted positively to the promise of more relevant advertising when website quality was low, because they perceived room for improvement throughout the website. Advertising informativeness is just one aspect of overall website quality, and the individual-level correlation between these aspects is low (r = .23); yet our data showed that consumers were motivated and used the opportunity to improve the website. In addition, we did not expect a relationship between the relevance argument and the level of user-generated content, but high response rates to the relevance argument emerged at low levels of user-generated content. Regardless of the argument, consumers thus seem less willing to cooperate with a website whose content is mainly generated by its users. We also were surprised to find no relationship between advertising clutter and the effectiveness of the reciprocity argument. Nor did advertising clutter differ between reciprocity- versus relevance-dominant websites. Although consumers might perceive advertising as informative or entertaining (Edwards, Li, and Lee 2002), we asserted that high levels of advertising generally constitute a cost that users must "pay" to receive free e-services. Our data did not support this claim. However, further analyses showed that when we controlled for informativeness, higher effectiveness of the reciprocity argument was significantly associated with less advertising clutter. Thus, even on websites with high levels of advertising, consumers can be motivated by the reciprocity argument—as long as they perceive the advertising as informative.

Discussion

Theoretical Implications

The results of this research contribute to marketing theory in four ways. First, we provide evidence that the reciprocity argument works in an anonymous relationship between users and websites. Our findings suggest that users consider acceptance of targeted advertising an alternative form of "online currency" that they can use voluntarily to repay a website for the benefits they have received, which aligns with a broader perspective on marketing exchanges (Bagozzi 1975). This result is particularly noteworthy for general reciprocity research, because important motivational forces for reciprocal behavior—namely, observing others doing so and being observed by others—are absent (Alpizar, Carlsson, and Johansson-Stenman 2008). Previous reciprocity research has suggested that altruistic, prosocial behavior is motivated particularly by a desire for status and social acceptance (e.g., Greenberg 1980; Griskevicius, Tybur, and Van den Bergh 2010), but these motivations do not exist when accepting targeted advertising in an anonymous online context. In the online context, users' motivation to preserve a positive self-perception sufficed to cause them to accept targeted advertising. This motivation could be activated by a simple, short text, and this finding is informative for research on the power of priming social norms (Nolan et al. 2008; White and Simpson 2013). Our findings likely apply to other free online services that rely on advertising revenues, such as free music downloads or apps, which are in a similar situation. Users can enjoy free content and should feel as motivated to reciprocate this service by providing data for targeted advertising as they did in the case of the websites in our study. Whereas we focus on indirect, nonmonetary "payments" in the form of personal data, the findings could transfer to direct revenue sources as well, such as donations or pay-what-you-want pricing (Gneezy et al. 2010; Kim, Natter, and Spann 2009).

Second, we extend research on online information disclosures (e.g., Mothersbaugh et al. 2012; Wirtz and Lwin 2009) by demonstrating the motivational power of the reci-

procity argument for the disclosure of personal information, a previously neglected point. Prior research has focused on control and utilitarian customization benefits as drivers of information disclosures (Mothersbaugh et al. 2012). When information is sensitive, information control is more relevant, whereas utilitarian arguments for customization benefits are not. Our findings reinforce the importance of control and the irrelevance of a utilitarian (i.e., relevance) argument for encouraging the disclosure of highly sensitive information, such as browsing behavior or sociodemographic data and preferences. Furthermore, we show that in a free e-services context, the normative reciprocity argument can drive the disclosure of sensitive, personal information, even after we account for the positive effect of control. Because free services are the dominant business model on the Internet (Anderson 2009), normative reciprocity appeals should have broad applicability. Our finding that reciprocity outperforms relevance in most cases also implies that the perceived costs of information sensitivity influence the effectiveness of the normative reciprocity argument much less than they do that of the utilitarian relevance argument. Users are willing to provide even sensitive information in return for the benefits they receive from free services. However, in circumstances that increase the utilitarian benefits consumers derive from advertising relevance, customization benefits can have a strong impact on information disclosures. That is, an increase in utilitarian benefits can outweigh the negative impact of information sensitivity on the effectiveness of utilitarian arguments.

Third, we extend compliance research (Goldstein, Griskevicius, and Cialdini 2011; James and Bolstein 1992) by introducing contingency factors and identifying boundary conditions for the superiority of the reciprocity argument. In contrast with prior studies, we assert that the reciprocity argument is not universally superior to a negotiated exchange (i.e., the relevance argument). Rather, this superiority depends on consumers' perceived obligation to reciprocate. It only works if the website's offering is attractive, with high utility and quality. Otherwise, if the website characteristics support the relevance argument, the reciprocity argument may be less effective. This finding adds to research by White and Simpson (2013), who show that social identity influences the effectiveness of normative and benefit appeals. We even demonstrate that a negotiated exchange based on the relevance argument can have negative effects. If users do not believe in the promise, a negotiated exchange mitigates their compliance behavior. Prior research has not incorporated this important finding, which might influence consumers' more positive reactions to smaller but certain gains compared with larger but uncertain rewards.

Fourth, our findings about the moderating effect of user-generated content contribute to reciprocity research by linking it to the service-dominant logic of marketing (Vargo and Lusch 2004, 2008), customer coproduction (Bendapudi and Leone 2003; Chan, Yim, and Lam 2010), and customer engagement (Van Doorn et al. 2010). All these approaches imply that active consumers play an important role in value creation networks (Achrol and Kotler 1999) and can be valuable for firms even beyond direct revenues, for example, by acting as comarketers or sharing knowledge (Kumar et al. 2010). Yet little research has considered how consumers perceive the value that their behavior has for the firm. A notable exception is a study by Tsai et al. (2011) that involves consumers' willingness to pay for their privacy and implies consumers' understanding of the monetary value of their data. Our work contributes to this research stream by showing that consumers understand very well who creates which part of the overall value in a value creation network such as a free website. Depending on the service provider's input, consumers' feelings of reciprocity change, as do the resources they are willing to contribute (e.g., their time and personal information). When the value derived from user-generated content is greater than the value users obtain from the website, they are less moved by appeals to reciprocity. Therefore, reciprocity research in complex value networks, whether on- or offline, should account for consumers' perceptions of the source of the value.

Managerial Implications

Web networks and associated service providers have invested heavily to improve their targeting mechanisms, and many believe that targeted advertising is the key to advertising success on the Internet (Forrester Research 2013). However, targeting acceptance rates tend to be low and are decreasing (Beales 2011). Our research offers a strategy for increasing acceptance of targeted online advertising by appealing to reciprocity rather than relevance. Websites that pursue targeted advertising thus can immediately benefit from our findings: they should apply reciprocity arguments when asking for users' consent to collect information, which will enable them to offer more efficient targeting. For example, in Study 3, we find that the average number of finishers in the predictive behavioral targeting survey that featured the reciprocity argument was 70% higher than that associated with the relevance argument. By using a reciprocity argument, a website can invest less time and effort but obtain the same number of profiles. It should also experience a financial gain because it can sell advertising space rather than using it to issue invitations to participate in predictive behavioral targeting surveys. Imagine, for example, an advertising network that aims to collect 10,000 user profiles. Our data show that it would need to issue 13,698,630 invitations if it used a relevance argument but only 8,064,516 invitations using the reciprocity argument. Assuming a cost per mille of US$15, the advertising space saved by 5,634,114 fewer invitations could be sold for approximately US$84,511.71—at no additional cost or effort other than changing the text.

Beyond this immediate financial impact, reciprocity is generally preferable because the relevance argument can have negative consequences on targeting acceptance if its promise is not convincing. The relevance argument only outperforms the reciprocity argument if the website characteristics favor the former (i.e., uninformative advertising) and conflict with the latter (i.e., low utility and quality and high levels of user-generated content). The observation that the relevance argument sometimes outperforms the reciprocity argument may be worrisome for managers of such websites and requires careful analyses of the underlying reasons. Because the level of user-generated content is not necessar-

ily negative or easily changed, website managers should aim primarily to improve the service of their websites.

Finally, these findings are important in light of current policy initiatives to increase consumers' privacy, which likely will have tremendous effects on the business models of free websites. The concept of a "Do Not Track" tool is still preliminary, but the U.S. Federal Trade Commission has indicated its intention to push for such legislation if the industry's self-regulatory efforts fail. Our research provides information to help free content websites ensure the success of these efforts by increasing users' acceptance of targeted advertising and the likelihood that they will opt in voluntarily. In the European Union, member states are already implementing the e-Privacy Directive 2009/136/EC (European Union 2009), which requires consumers to opt in before websites may employ third-party tracking technology (e.g., cookies by advertising networks). The current practice is to obtain this opt-in from users' browser settings, but the regulation demands that users must be informed clearly and comprehensively about targeting practices to facilitate their informed consent. As our research shows, if free websites use the reciprocity argument and educate consumers truthfully, they can achieve more acceptance of targeted advertising, which could reduce regulatory attention and minimize the likelihood of tighter privacy laws. For example, the free German news portal www.golem.de asked users to support it by switching off their browsers' ad blocker to help it finance its services. The campaign resulted in a 25% reduction in the use of ad blockers, in accordance with our findings. For policy makers, our results indicate that enforcing current regulations will not necessarily harm the online industry. The reciprocity argument performs particularly well for high-utility and high-quality websites, so it ultimately could benefit the industry by increasing competition and improving quality standards.

Limitations and Outlook

Several limitations of our study suggest avenues for further research. First, our studies were conducted in Germany, and privacy concerns, which relate to cultural values, likely vary across countries (Milberg, Smith, and Burke 2000). Germans' average privacy concerns tend to be high (Interactive Advertising Bureau 2012), so our participants' objections to targeted advertising might be high as well. However, these level differences do not necessarily challenge our results, because we investigate relative differences in the effectiveness of relevance and reciprocity arguments, not absolute acceptance levels. Because reciprocity is a universal norm (Gouldner 1960; Leakey and Lewin 1978) and studies in countries such as the United States have suggested that it is more effective than a negotiated exchange (Goldstein, Griskevicius, and Cialdini 2011; James and Bolstein 1992), our findings seem likely to transfer across cultures.

Second, we tested the reciprocity argument with a flash layer appearing on a website, which sometimes led to click rates of less than 1%. Although such low reaction rates are standard for flash-based advertising, there may be more effective ways to use reciprocity in the context of advertising-supported content. For example, websites might use reciprocity arguments in newsletters or website content. Broader, industrywide information campaigns also might induce greater acceptance of targeted advertising as a means to finance free content. Future studies should test these predictions.

Third, we focused on acceptance of targeted online advertising rather than its effectiveness. In a large-scale study of targeting and the obtrusiveness of display advertisements, Goldfarb and Tucker (2011) find that privacy concerns can reduce advertising effectiveness. Subsequent research has stressed the importance of research into the cognitive mechanisms underlying privacy concerns and advertising effectiveness (Goldfarb and Tucker 2011; Lodish and Reed 2011). Goldfarb and Tucker's (2011) study refers to contextual targeting (i.e., matching an advertisement to the website context), but cognitive mechanisms could be even more relevant for the more intrusive practice of predictive behavioral targeting. We hope research continues to test the applicability of our findings for increasing the effectiveness of targeted advertising.

Fourth, we studied the short-term effects of the reciprocity argument. Additional research should consider its mid- and long-term effects to provide insights into how regularly consumers need to be reminded of their obligation to reciprocate free websites by accepting targeted advertising. Researchers also might examine the effects of repeated exposures to reciprocity arguments across several websites in an advertiser network. Do their effects diminish as consumers become more familiar with, and thus indifferent to, reciprocity arguments? Or do repeated arguments instead increase awareness of the challenges that free content websites face? Free business models are also increasing in offline environments (Bryce, Dyer, and Hatch 2011), so activating the norm of reciprocity could be a broadly useful principle. Further research should investigate the effect of a social presence on the overall effectiveness of reciprocity arguments.

Fifth, we believe our results should apply to mobile marketing applications for which users must agree to show their geographical location. Further research should investigate how and when the reciprocity argument should be presented and framed in this context.

Appendix: Measurement Items and Validity Assessment for Constructs in Studies 1 and 3

Respondents indicated their responses to the items on a seven-point Likert scale (1 = "strongly disagree," and 7 = "strongly agree").

Acceptance of Behavioral Targeting (Study 1; Malhotra, Kim, and Agarwal 2004)

(Cronbach's α = .96, composite reliability [CR] = .96, average variance extracted [AVE] = .88, highest squared correlation with other constructs [HSC] = .24)

Given this hypothetical scenario…

1. I would probably allow the website to evaluate my surfing behavior.
2. It is likely that I would consent to an analysis of my surfing behavior.

3. I would be willing to agree to an evaluation of my surfing behavior.

Relevance Anticipation (Study 1; Laczniak and Muehling 1993)

(Cronbach's α = .94, CR = .94, AVE = .70, HSC = .24)

If I allow the website to evaluate my nonpersonally identifiable surfing information…

1. I will see online ads that are relevant to me.
2. I will receive useful information through online ads.
3. Online advertisements will be interesting to me.
4. Online advertisements will be worth paying attention to.

Need for Distributive Justice (Study 1; Wirtz and Lwin 2009)

(Cronbach's α = .92, CR = .92, AVE = .79, HSC = .24)

1. It is fair to reward the website for providing its content to me.
2. It is okay that the website asks for a favor in exchange for free content.
3. Providing the website a benefit in return for its content is fair.

Procedural Justice (Study 1; Wirtz and Lwin 2009)

(Cronbach's α = .89, CR = .89, AVE = .58, HSC = .04)

1. The way the website provides information explaining its information-handling procedures is fair.
2. The website is honest to its visitors.
3. The way I can influence how the website handles my information is fair.
4. With regard to its advertising and privacy practices the website employs fair procedures.

Internet Affinity (Study 1; Neelamegham and Jain 1999)

(Cronbach's α = .85, CR = .86, AVE = .62, HSC = .20)

1. I use the Internet more often than other people do.
2. I am interested in the Internet.
3. I am experienced in using the Internet.
4. In general, the Internet is important for me.

General Concern for Privacy (Study 1; Dinev and Hart 2006)

(Cronbach's α = .91, CR = .92, AVE = .73, HSC = .07)

1. In general, I am concerned about my privacy when using the Internet. (Study 3)
2. I am concerned that information I submit on the Internet could be misused.
3. I am concerned that a person can find private information about me on the Internet.
4. I am concerned about submitting information on the Internet, because they could be used in a way that I cannot foresee.

Attitude Toward Advertising (Study 1; Pollay and Mittal 1993)

(Cronbach's α = .94, CR = .94, AVE = .85, HSC = .23)

1. Overall, I consider advertising a good thing.
2. My general opinion of advertising is favorable.
3. Overall, I like advertising.

Satisfaction with the Website (Study 1; Chen and Wells 1999)

I am satisfied with the content of this website.

Advertising Clutter (Study 3)

In comparison with other websites, this website has a significantly higher level of advertising.

Advertising Informativeness (Study 3)

I find the advertising that I currently usually see on this website very interesting.

Utility of the Website (Study 3; adapted from Chen and Wells [1999])

(Cronbach's α = .83, CR = .85, AVE = .66, HSC = .44)

1. The content of this website is useful to me.
2. I am satisfied with the content of this website.
3. I would like to visit this website frequently.

Quality of the Website (Study 3)

(Cronbach's α = .91, CR = .92, AVE = .79, HSC = .44)

1. The content of this website has high quality.
2. The design of this website seems very professional to me.
3. Overall, this website is of high quality.

Level of User-Generated Content (Study 3)

(Cronbach's α = .89, CR = .90, AVE = .74, HSC = .12)

1. The content of this website is created to a large extent by its users.
2. The users of this website contribute significantly to the value I derive from the website.
3. This website profits a lot from the contributions of its users.

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