

Subtle Persuasion: the Unobtrusive Effect of Website-Banner Congruence on Trust

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ABSTRACT

This paper focuses on congruence among associations with banner advertisements and their host websites. Based on processing fluency theory we argued that congruence, as opposed to incongruence, increases processing fluency, which subsequently influences trust in the organization behind the banner. To test this prediction, an experimental study was conducted in which participants were asked to evaluate a mobile website, in which the product class of a banner advertisement and its host website were manipulated to be either congruent or incongruent. In conformance with expectations, congruence proved to affect trust behind the banner, and this effect was mediated by the ease with which they were able to reconcile banner and website (i.e., processing fluency). Alternative ways in which congruence may affect trust are discussed.

Categories and Subject Descriptors

J.4 [Social and Behavioral Sciences]: Psychology

General Terms

Experimentation, Theory

Keywords

Congruence; Congruity; Online trust; Initial trust; Trustworthiness

1. INTRODUCTION

Trust has been argued to be highly important for the successful conclusion of many online interactions [19] and, by extension, also mobile interactions. It is considered of paramount importance if online consumers need to be persuaded, e.g., to divulge personal information [32], to rely on provided advice [6, 19], to make a purchase [19], and to become loyal [9].

Arguably, the reason that online dealings are associated with high uncertainty is that service providers increasingly venture online, making them largely invisible to consumers (e.g., see [11]). Consequently, research in the field of e-commerce has identified privacy and security issues as the most frequently mentioned obstacles for people to engage in online commercial interactions (e.g., see [1]). Apparently, the possibility of being spammed or of

one's privacy being violated, among others, causes considerable uncertainty, which requires sufficient levels of trust to be present in order to reduce this [19]. As this increased invisibility holds true for mobile service providers as well, trust is likely to be a similarly important antecedent of mobile services use. Indicatively, whereas text messaging and ring tone use are relatively popular in Europe, more advanced service provision have yet to disperse into consumers' daily lives [5].

We expect trust to play an important role in accepting mobile as well as online banner advertisements. In other words, the extent to which the banner is likely to persuade online consumers to click on it depends on their perceptions of advertiser trustworthiness, honesty and benevolence. As we will argue below, we expect the context in which the ad is placed, or rather, the match or mismatch between the topic of the ad and that of the host website influences trust and, by extension, the intention to respond to the banner ad.

In recent years, researchers in the field of e-commerce have increasingly focused on online atmospherics, such as website color, layout, and background images, and its influence on consumer behavior (e.g., [8, 12, 17, 27]). These studies suggest the online environment may influence consumer cognition and behavior. Griffith [12], for instance, demonstrated that website layout impacts purchase intentions and attitude towards the retailer. Additionally, Mandel and Johnson [17] showed that background images priming comfort resulted in higher preferences for comfortable sofas whereas images priming money led participants to prefer cheap sofas instead.

Other researchers drew attention to the role of congruence or consistency among the associations with the various elements within an (online) environment (e.g., [22, 21, 31]). Mattila and Wirtz [18], for example, showed consumers to rate the environment in more positive terms when scent and music matched rather than mismatched. In the context of online environments, Shen and Chen [31] showed banners thematically congruent with the website in which they are embedded elicited more favorable attitudes towards the banner ads than did banners incongruent with the website.

These findings suggest that consumers' decision making is the result of a process in which the different associations triggered by various elements in the environment are integrated. In conformance with this view, theorizing on processing fluency proposes that people evaluate stimuli more positively the more fluently they can be processed. Thus, forming an opinion, or taking a decision, requires integration of the various elements and the associations consumers have with them. The relative ease with which consumers accomplish this, i.e., processing fluency, shapes their opinions and responses.

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1.1 Congruence, processing fluency, and trust

As discussed above, the processing fluency account holds that stimuli that are easily processed are generally evaluated in positive terms [25, 26]. The basis for these effects can be traced to the so-called ease of retrieval phenomenon. Schwartz et al. [30], for instance, showed that when participants experienced difficulty remembering examples of one's own assertive behaviors (i.e., when participants were required to list a lot of them), they rated themselves less assertive compared to when they experienced ease of retrieval (when they were asked to list only a few). In a similar vein, Lee and Labroo [13] showed that when a product comes to mind more readily, as when the product is presented in a predictive context, consumers develop more favorable product attitudes. Apparently, similar to retrieval ease, processing fluency is hedonically marked, i.e., fluent processing is experienced as positive, as reflected in psychophysiological measures [25, 36]; this positive affect subsequently carries over to the stimulus at hand, inducing positive evaluations [25].

In addition to product attitudes, processing fluency affects other evaluations as well. Reber et al. [25], for instance, showed that 'gestalt' patterns such as symmetry and goodness of form lead to more fluent processing compared to processing of visual patterns which are devoid of such gestalt features. In addition, Reber and Schwartz [24] manipulated contrast between color of true/false statements and background color, and showed processing fluency to affect truth judgments: the statements presented on the screen were less likely to be judged as true when they were difficult to read as opposed to when they were easily readable (also see [34]).

Congruence in associations with stimuli arguably also impacts processing fluency. Evidence in support of this contention is provided by Van Rompay, De Vries and Van Venrooij [35]. They presented participants with a website on which images and descriptions of hotels were hosted. Those conditions in which the appearance of the hotel matched the accompanying description (i.e., when both were either cozy or modern) resulted in more positive attitudes towards the hotel as a realistic weekend getaway compared to when image and description were incongruent. This effect of congruence on attitudes subsequently proved to be mediated by processing fluency, in line with the finding that easily processed stimuli generally elicit higher aesthetic evaluations than non-fluent stimuli [25].

Of interest in the context of this study is the question whether trust attributed to online or mobile advertisers is also affected by information congruence. For example, when confronted with vendor websites, be they online or mobile, comprising elements with different associations (e.g., a site of an environmental non-governmental organization featuring an ad for a sports utility vehicle), consumers may experience difficulty integrating these widely differing associations (e.g., environmentally friendly versus energy consuming) into an overall impression in order to assess quality and relevance. In addition, meaning incongruence may place doubt in consumers' minds as to credibility of the ad or its host website. Conversely, highly consistent information on a website (such as when both the organization and the advertisement are associated with environmental friendliness) requires less integration effort, and, thus, is likely to positively influence subsequent evaluations of trust or trustworthiness. The question central to this paper is whether these seemingly suspicion-arousing effects of perceptual disfluency can also be

expected for disfluency as a result of conflicting associations between website and banners, and whether this impacts trust in advertisers. Ultimately, this disfluency might negatively affect the persuasiveness of the ad, i.e., the likelihood that consumers will respond to these banner ads by clicking on it.

Surprisingly little is known about the effects of congruence and processing fluency on trust, however. Nevertheless, some research shows interesting findings which could be interpreted as pointing towards trust as an additional outcome variable. A study by Osgood and Tannenbaum [23], for instance, demonstrated that information incongruence in written communications caused participants to discredit the message's source. Similarly, some studies have shown that people use a consistency principle to assess the truthfulness of communication partners [10, 15, 28]. Friedman [10], for instance, showed that students base their assessment of a teacher's sincerity on the degree of consistency exhibited by his or her facial and verbal expressions in terms of expressed affect. As Rotenberg et al. [28] argued, incongruence of facially and verbally expressed affect signals deception. In addition, research by Reber and Schwartz [24], and Unkelbach [34], described in the above, could also be explained as providing support for fluency effects on in terms of trust or suspicion following disfluency.

We predict that a website in which banner ads are incorporated which advertise products that are congruent with the topic of the website require less information integration effort, i.e., are more easily processed, compared to websites with advertisements which are incongruent. Processing fluency, in turn, positively affects consumers' trust in the source of the advertisement, and, thus, the likelihood of a positive response.

1.2 The present research

To test these ideas, an experimental study was conducted in which participants were asked to evaluate a mobile website. They were presented with a mobile website on which either a congruent, mildly incongruent and incongruent banner ad was placed. Whereas congruence between websites and banners may occur on a number of different aspects, such as layout or similarity, we followed the example by Newman, Stem and Sprott [22], who manipulated congruence by matching versus mismatching the product classes of site and banner. Subsequently, rating scales were administered that measured processing fluency, and trust towards the banner. Based on the presumed effect of congruence among mobile website elements on processing fluency we predict the following:

H₁: The higher the congruence of a banner advertisement and the mobile website in which it is embedded, the higher trust in the banner will be. In other words, we hypothesize a main effect of Congruence on trust towards the banner.

H₂: The higher the congruence of a banner advertisement and the mobile website in which it is embedded, the higher will be the fluency with which available information is integrated. In other words, we hypothesize a main effect of Congruence on processing fluency.

H₃: The effect of Congruence on trust, specified in H₁, is mediated by processing fluency.



a) Mobile website: “The TV Guide”



b) Incongruent: “Volkswagen Mobile”



c) Mildly incongruent: “KPN n8 – Experience the night with the free KPN Mobile Museum Guide”



d) Congruent: “Opinio – The first mobile weekly in The Netherlands”

Figure 1. Mobile website (left) and the banner ads presented in three Congruence conditions (website and banner captions translated from Dutch)

2. METHOD

2.1 Pilot study

A pilot study among 33 students of University of Twente was conducted to find suitable stimulus material, i.e. three banners that were either congruent, moderately incongruent and incongruent with the mobile website in which they were embedded. First, ten product classes, suitable for advertising in mobile marketing, were determined. These constituted, among others, the classes “TV-media”, “Photography”, “Banking” and “Motor Vehicles”. A mobile website was subsequently created that belonged to the “TV-media” class. It presented a range of information relating to channels, broadcasting companies, television shows, and content of shows. As most participants were students, and therefore likely watch a lot of television, this particular topic was not likely to cause them to become disinterested. This site was fully interactive; participants could go to the Latest News section, watch the message posted in the Forum, visit the Archive, or leave their personal data in the Contact section.

The pilot study displayed this mobile website in combination with ten banners, advertising mobile magazines on various topics belonging within each of the ten product classes. Participants were subsequently asked to rate to which extent they believed the topic or class of each banner to be congruent with that of the website, on a nine point scale ranging from “very incongruent” to “very congruent”.

The results led to the selection of three banners, one of which was congruent (“Opinio”, $M = 6.79$, $SD = 2.18$), one mildly

incongruent (“KPN n8”, $M = 5.12$, $SD = 2.39$), and one incongruent (“Volkswagen”, $M = 3.48$, $SD = 2.29$). A one-way repeated measures ANOVA revealed the congruence ratings belonging to these three banners to differ significantly from one another at the $p = .001$ level ($F(2, 64) = 25.72$, $p < .001$).

2.2 Participants and design

Two hundred and thirty students of University of Twente took part in the study, 121 of which were female, and 85 were male; 24 participants chose not to disclose their gender. Ages ranged from 20 to 29 years ($M = 1.97$, $SD = 0.87$). The study had a one factor between- participants design: participants were randomly assigned to one of three Congruence conditions, i.e., either incongruent, mildly incongruent, or congruent.

2.3 Procedure

Participants learned that they would participate in a study to evaluate a newly developed mobile website, and that they were expected to give their opinions after interacting with the site. They were allowed to spend as much time as they wanted reviewing the site. The mobile website subsequently presented to them belonged to the TV-media class and was identical to the one described and tested in the pilot study. The banner ad embedded in this website, however, differed between Congruence conditions. In the congruent condition, the banner matched the mobile website in terms of topic or class; similar to the mobile website, the Opinio banner was dedicated to the TV-media class. In the mildly incongruent condition, the banner topic was Telecom; it featured a major Dutch telecom company offering a mobile “night guide”. In the incongruent condition, participants observed a banner in the

“Motor Vehicles” class, advertising a Volkswagen vehicle (see Figure 1).

As practical limitations (such as limited compatibility of many participants’ mobile phones with the mobile website) prevented us from using actual mobile media, the mobile website and the embedded ads were presented on an Internet webpage. Care was taken to ensure that the website participants interacted with was identical to how it would have appeared on a mobile phone, both in terms of layout as well as navigation. As in the pilot study, participants could browse through the site as they pleased. Wherever they went within the focal site, the manipulated banner was visible at all times at the bottom of the screen.

Finally, the manipulation checks and dependent variables were measured on 7-point rating scales as part of an evaluation form. The manipulation check items required participants to rate the extent to which they believed the mobile website and the banner contradicted each other. Based on the work of Ellen and Bone [1991], processing fluency, i.e., ease of image formation, was measured with 14 items, tapping participants’ opinion of the site in terms of how clear, detailed, well-defined it was, as well as how easy it was for them to create a clear overall image of the site, to get a clear picture of the site, and how well they were able to imagine what the mobile magazine (banner) would be like (Cronbach’s alpha: 0.89). Trust was measured with three items; trustworthiness of banner ad content, the honesty of the people behind the banner, and the care the people behind the banner ad have for consumers (Cronbach’s alpha: 0.67).

3. RESULTS

3.1 Manipulation check

The item pertaining to the extent to which participants believed the mobile website and the banner to have the same topic showed a significant effect of Congruence: ($F(2, 212) = 47.97; p < .01$). In the congruent condition, these ratings were highest ($M = 4.73; SD = 1.40$), and they were lowest in the incongruent condition ($M = 2.60; SD = 1.56$); in the mildly incongruent condition, these were in-between ($M = 2.78; SD = 1.28$). Although comparisons showed the ratings in this latter condition not to differ significantly from the congruent condition, the differences between the congruent condition and both the incongruent and mildly incongruent condition were significant ($p < .01$).

The effect of Congruence on the degree to which they felt the site and the banner contradicted each other was also significant ($F(2, 212) = 6.41; p < .01$). Planned comparisons showed significant differences between the congruent and incongruent conditions ($M = 4.91; SD = 1.38$ versus $M = 4.04; SD = 1.70, p < .01$), and the mildly congruent and incongruent conditions ($M = 4.59; SD = 1.28$ versus $M = 4.04; SD = 1.70, p < .05$), but not between the congruent and mildly congruent conditions.

In sum, the results on these two items imply Congruence manipulations to have been fairly successful.

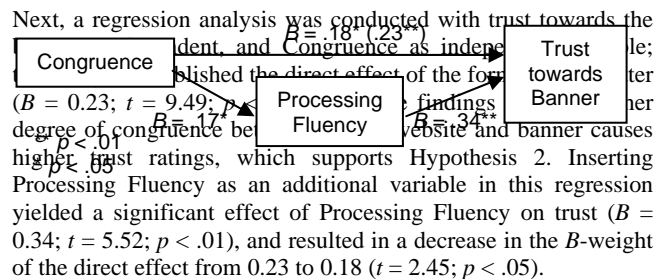
3.2 Mediation analysis

To test for mediation, a series of regression analyses were conducted following the procedure by Baron and Kenny [3]. First, however, the measure of processing fluency was centered on the mean, and Congruence was coded as -1 (incongruent), 0 (mildly congruent) or 1 (congruent). Subsequently, inspection of the means confirmed the Congruence manipulation to have a linear

relation with the measure of trust; these were $M = -0.25, SD = 0.81$, $M = -0.02, SD = 0.94$, and $M = 0.21, SD = 1.05$, respectively.

To test whether the hypothesized mediator, Processing Fluency, was affected by manipulations of Congruence, a regression was conducted in which the former was inserted as a dependent variable and the latter as independent variable. This yielded a significant B -weight of 0.17, indicating that the more congruent the stimuli are, the more fluent the subsequent processing of information is ($t = 2.17; p < .05$). This finding supports Hypothesis 1.

Figure 2. Results of a test for mediation [3]



Although insertion of the hypothesized mediator into the regression did not eliminate the direct effect of Congruence on trust, it did result in a decrease in the B -weight. Furthermore, the results of a subsequently performed Sobel test showed the indirect effect (i.e., the effect of Congruence on trust via Processing Fluency) to be significant (Sobel $z = 2.03, p < .05$). The analyses presented here therefore support the hypothesized mediation by Processing Fluency, albeit partial rather than full mediation. Hypothesis 3 is, therefore, accepted. For a summary of these results, see Figure 2.

4. DISCUSSION

The results presented here provide support for the contention that trust is influenced by congruence. A higher degree of congruence between banners and the site in which they are embedded leads to higher ratings of ratings of trust, operationalized here as belief in the good will of the people or organization that the banner represents. This finding is in conformance with the results reported by Osgood and Tannenbaum [23], which indicate information incongruence in a message causes participants to discredit its source. Although the effects of congruence between Internet websites and banners on evaluations has attracted some attention (e.g., see [22, 31], this has focused solely on attitude towards banner and host website as a dependent variable. Despite its widely acknowledged importance in online interactions [6, 9, 20, 19, 29, 32], effects of congruence on trust have largely escaped attention of researchers.

Furthermore, the present research offers further clues as to how the effect of information congruence on trust actually works. Specifically, the results of a mediation analysis indicate that processing fluency, i.e., the ease with which available information

can be integrated to form an opinion, is in part responsible. Offering information that is incongruent, such as when website and embedded banner belong to different product classes, results in lower processing fluency, and subsequently results in lower trust ratings than when information is congruent (i.e., when both belong to the same product class). Apparently, the positive experience of easily integrating available information when evaluating web content is attributed to trust in a similar manner as it is to attitudes or other evaluations (cf. [25, 24, 34]).

Interestingly, although the mediation analysis presented here shows a significant indirect path, the direct effect, i.e., the effect of the congruence manipulation on trust, remained significant after the proposed mediator processing fluency was inserted into the regression. In effect, this shows that the mediation found is only partial, leaving open the possibility that other variables mediate the relationship between congruence and trust as well. One interesting possibility would be that the congruence effect on trust visible in our data is the result of two competing processes. In the introduction, the effect central to this paper is argued to be the result of the attribution of positive affects emanating from processing experiences to the stimulus at hand, and could be argued to be a process that evades cognitive control. However, a banner of a totally different product class than its host website could also, via a more cognitively controlled process, be regarded as the action of an opportunistic company, hence negatively influencing trust ratings. Indeed, organizations whose advertisements are evidently out of place on a website could well be regarded as totally ignorant about their intended customers, incapable of placing themselves in the shoes of their customers, or blatantly luring as many customers to their site as possible – the equivalent of spam emails. In essence, both processes, cognitively controlled versus not controlled, could simultaneously have battled for supremacy in the participants' minds, which could explain the mediation to be only partial. This line of reasoning would be in conformance with the findings of Main, Dahl, and Drake [16]. Their work on the sinister attribution error shows judgments of suspicion or distrust to be automatically evoked by flattery of a salesclerk, and this immediate automatic effect may subsequently be corrected afterwards by deliberate processing of information, i.e., when flattery took place after rather than before conclusion of the sale and the possibility of an ulterior motive for the flatterer is unlikely.

Additionally, the indirect effect via the mediator, although significant, proved to be much weaker than the direct one, largely on account of the relatively low regression weight in the indirect path from congruence to processing fluency. An explanation for this finding would be that whereas we successfully manipulated product class, there may have been a myriad of other associations with the stimuli. In addition to being from a dissimilar product class than the mobile website, the Volkswagen Mobile banner may well be associated with pleasurable driving experiences with a car of that brand, or with the negative experience of being driven off the road by such a car. Similarly, the TV Guide mobile website, aside from being associated with TV Media, may also be negatively or positively associated with other categories of phenomena, such as gossip. In essence, what other association's participants may have had could have thrown a spanner in the works by negatively affecting the magnitude of the effect of our congruence manipulation on processing fluency. To get a more precise image of the relationship between congruence processing fluency and trust, further research should take the possibility of

multiple associations into account, or prevent their interference by creating novel stimuli and manipulating consumers' associations with these stimuli in, for instance, a conditioning procedure.

Unfortunately it proved not possible here to test the effects on congruence on ad persuasiveness in the sense of actual click through rates. Instead, we have focused on trust, under the assumption that that trust is a prerequisite for persuasion to occur. In order to be able to show the occurrence of a very subtle process, it was necessary to resort to a tightly controlled field experiment using a homogeneous convenience sample. Although more difficult to realize in a practical sense, another worthwhile venue for further research would therefore be to replicate this study in a more real-life setting, focusing on click through rates in addition to measures tapping trust and processing fluency.

Nevertheless, our findings contribute to literature on congruence effects by pointing to trust as an outcome variable. Banner-website congruence facilitates the impression formation process, thus allowing consumers to form a clear evaluation of the site and its constituents, as opposed to banner-site incongruence. The perceived ease with which this impression is formed subsequently affects trust. As trust is generally considered of prime importance in all kinds of commercial exchanges, especially on the Internet (e.g., see [9, 19, 32]), our results stress the importance for companies to carefully consider with whom one wants to be associated, both from the perspective of companies advertising with banners on others sites, and of those who seek to generate revenues from advertisers on their sites. Marketing managers should be careful to ensure that the dominant associations of the people with banners match those with the host (mobile) websites. In terms of trust, failure to understand potential customers and their dominant associations may have dire consequences, while the competition lies in wait, a mere click away...

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