

Trust is Earned (Unless Your Website is Flawed): How Presentation Flaws and Delays Affect Swift Trust Between Individuals

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Abstract

As interactions and work moves online, the experience users have with interfaces becomes increasingly more important. In this study, we examined how two types of website malfunction, presentation flaws and delays, affect swift trust impressions of other users. We draw upon signaling theory to theoretically explain how presentation flaws and delays affect users' swift trusting beliefs and intentions to delegate to other users. We conducted an online experiment ($n=514$) with a 2×2 factorial design to test our model. The presence of presentation flaws significantly biased swift trust evaluations in the negative direction as predicted. Surprisingly, we found no impact of delays on swift trust impressions, but we did find that delays increase the effect of presentation flaws on swift trust in some conditions. Our results provide guidance for practitioners seeking to keep users engaged with their interface and avoiding inadvertent distrust of other users of the platform.

Keywords: Website Quality, Presentation Flaws, Delays, Swift Trust, Interface Design

1. Introduction

Over 5.3 billion users spend time on the Internet where their average use exceeds six hours per day, including more than two hours spent on social media (Kemp, 2024). With this level of use, it is difficult to overstate the impact that online content and their accompanying user interfaces have on the global population. As platforms, apps, and websites have matured, users have come to expect high quality and intuitive user experiences with polished design, few if any noticeable flaws, and quick response times. Websites, apps, and other high-quality interfaces can encourage positive interactions between organizations and their customers or among people as the technology encourages trust, credibility, and further engagement (Everard & Galletta, 2005; Fogg et al., 2003; Wells et

al., 2011). Conversely, low quality website design can lead to distrust, disengagement, or affect other online behavior (Everard & McCoy, 2010; Grimes et al., 2014). Within human-computer interaction (HCI) research, two design artifacts associated with low quality interfaces include presentation flaws and loading delays (Everard & Galletta, 2005; Galletta et al., 2006; Gallino et al., 2023). Some research has examined the role of presentation flaws and delays on user perceptions of websites (Everard & Galletta, 2005; Everard & McCoy, 2010) and the products sold on e-commerce sites (Wells et al., 2011), but little research has examined how visual design flaws and delays influence user perceptions of fellow platform users and the content they produce. These other users typically are not platform owners/employees, but rely upon the design, features, and responsiveness of the platform. It is uncertain how (or if) flaws and delays will alter users' perceptions of their peers and their peers' content when "malfunctions" occur on the platform. In our increasingly digital world where technology users make snap judgments of trust, a phenomenon referred to as "swift trust" (Karimov et al., 2011; Meyerson et al., 1996; Olsen et al., 2020), it is important to understand how interface malfunction affects perceptions of everyone and everything on the platform. Users are trained to look for visual flaws (e.g., incorrect design, spelling and grammar errors, etc.) to evaluate the veracity of messages to determine if content is fraudulent. Users of social media often report distrust with other users and must be vigilant in not falling victim to misinformation (Zhang et al., 2024). With an increasingly global and distributed workforce, people are using a variety of platforms to collaborate virtually with many team members without ever meeting in person and this dynamic increases the need to promote swift trust.

Designers have an opportunity to signal trust and credibility to users by their interface decisions (Wells et al., 2011) just as individuals can signal trust and credibility by their behavior and communication (Robert et al., 2009). In this study, we examine the relationship between interface malfunction (i.e., those

with presentation flaws and/or delays) and perceptions of swift trust, not of the platform but of fellow users. We seek to understand how signals of low quality in the platform bias judgements of others. We draw upon signaling theory and swift trust theory to hypothesize how such a bias may occur in swift trust situations.

We first summarize the relevant literature on website quality, presentation flaws, delays, and swift trust. Then we present our theory and describe how we tested our hypotheses through a controlled, online experiment where participants view other users' interactions. Finally, we describe the results and share how this study contributes to research and practice.

2. Literature

Interface design can increase customer purchases (Wells et al., 2011), improve emotional reactions (Deng & Poole, 2010), or improve satisfaction (Nadkarni & Gupta, 2007); conversely, poor design with flaws or interfaces with delays can cause users to become frustrated and distrustful. In this section, we explore the literature on website quality, presentation flaws, delays, and swift trust. Swift trust is examined in the context of website design and user behavior.

2.1. Website Quality

Website quality predicts e-business performance (Y. Lee & Kozar, 2006) by affecting purchasing intention (Wells et al., 2011), perceptions of product quality online (Wells et al., 2011), customer relationship success (Liang & Chen, 2009), motivation and online engagement (Peters et al., 2018). Perceptions of website quality can be improved by effective design focused on usability, trust, performance, aesthetics, and emotional factors (Cyr et al., 2009; Loiacono et al., 2007). High quality design encourages engagement (Everard & Galletta, 2005; Pengnate et al., 2019). Importantly, website quality is strongly related to trust with some characterizations defining trust as part of quality (Loiacono et al., 2007) and others showing evidence that quality influences user perceptions of trust in the organization and site (Faisal et al., 2016; Gregg & Walczak, 2010; Liao, 2005) or e-commerce generally (Jones & Leonard, 2008). Website quality may be one of the primary design signals indicating to the user that the organization is to be trusted and that purchases are safe (Mavlanova et al., 2011; Wells et al., 2011).

Much of the research on website quality and design has focused less on how and when websites go wrong (Everard & McCoy, 2010; Galletta et al., 2004; Grimes et al., 2014) and more on what makes them right. In this paper, we focus on two aspects of how

websites “malfunction” or exhibit flaws. First, we consider visual presentation flaws that appear as people use sites. Second, we examine response time delays as another type of malfunction.

2.2. Presentation Flaws

A key aspect of website quality is the absence of flaws that are consciously or subconsciously evaluated by users. The manifestation of visual flaws that appear as users interact with a site are referred to as *presentation flaws* (Everard & Galletta, 2005). Unsurprisingly, researchers have found that presentation flaws lead to negative perceptions of the website and should be avoided or minimized in favor of creating sites that enhance usability and user engagement (Everard & Galletta, 2005; Pengnate et al., 2019). When presentation flaws are examined, they are most commonly conceptualized as an indicator of poor website design and experimental manipulations of low-quality design include flaws among other factors such as unpleasant aesthetics, poor user experience, confusing navigation, etc. (Grimes et al., 2014). This limits the ability for researchers and practitioners to understand the effect of presentation flaws.

Exceptions to this include Everard and Galletta (2005) where presentation flaws are assessed independently and affect perceptions of online store quality. In this study, presentation flaws are conceptualized to be of *poor style* (i.e., formatting and organizational issues that prevent efficient cognitive processing of the site), representing *incompleteness* (i.e., missing links, images, pages, or other functionality), or *errors* (i.e., content issues such as data inaccuracy, spelling mistakes, or grammatical problems). The influence of presentation flaws on website quality perceptions and ultimately trust and intentions were evaluated using surveys. The researchers discovered that perceptions of presentation flaws were more predictive of website quality than the presence of presentation flaws (Everard & Galletta, 2005). In a later study, Everard & McCoy (2010) extended their conceptualization of presentation flaws to include delays along with errors and incompleteness. They examined how flaws with spelling and grammar, broken images, broken links, and delays affected perceptions of website quality and perceived trust in the website through a vignette study where participants only read descriptions of flaws.

Another area where researchers have examined the influence of flaws on user behavior is in the context of security and security warnings (Anderson et al., 2016; Falk et al., 2008). For example, Grimes and Marquardson (2019) included flaws such as low-

quality images, broken links, spelling and grammar issues, unappealing colors, and other design manipulations to affect perceptions of site quality and determine how it influenced security intentions. Security-related design flaws may be present in many sites (Falk et al., 2008). Other research has demonstrated that users are resistant to security messages, and that the framing of security messages can substantially change a user's secure behaviors (Anderson et al., 2016; Rodríguez-Priego et al., 2020).

2.3. Delays

Users become frustrated when experiencing interface delays which can alter their behavior (Gallino et al., 2023; Selvidge et al., 2002). Researchers have found that delays have salient negative effects on users separate from other aspects of poor design (Arapakis et al., 2014; Galletta et al., 2006). These delays contribute to user resistance to the system and decreased productivity (Martin & Corl, 1986), dissatisfaction (Hoxmeier & DiCesare, 2000), and even feeling lost (Sears et al., 2000). Users may abandon shopping carts due to delays, decreasing potential organizational revenue (Gallino et al., 2023). While the negative effect size of delays depends on a user's familiarity with the system and personal levels of acceptable delay (Galletta et al., 2006; Taylor et al., 2016; Asthana et al., 2015), organizations seek to minimize delays to avoid user frustration (Hong et al., 2013). Platforms and website administrators should understand the effect of delays on users', as waiting may elicit emotions that directly impact user behaviors with the underperforming service (Zeelenberg & Pieters, 2004). Minimizing delays may increase trust in the organization (Everard & McCoy, 2010).

2.4. Swift Trust

People make immediate assessments of stimuli in the environments they encounter, including in the digital world. One type of initial impression important to information systems (IS) and HCI researchers is that of swift trust (Robert et al., 2009). As a subset of trust (Jarvenpaa et al., 1998; Jarvenpaa & Leidner, 1999; McKnight et al., 1998), swift trust refers to behavior among individuals who, when interacting or collaborating with others without prior acquaintance, rapidly develop trusting behaviors (Karimov et al., 2011; Meyerson et al., 1996; Olsen et al., 2020). With the construct of trust, there exists a relationship between trustor and trustee that develops over time and comprises ability, benevolence, integrity, and includes risk-taking and contextual factors (Mayer et al., 1995). Swift trust is distinct in both form and

function: it occurs most often in temporary groups or interactions and emerges from shared goals, common interests, perceived competence of members, and social cues. In such groups, temporary trusting behavior is based solely on initial interactions (Meyerson et al., 1996). Swift trust is important in both virtual and face-to-face settings where, even when groups have sufficient time to develop traditional forms of trust, initial impressions and judgments made during the "swift-trust phase" still color perceptions of knowledge-based trust (Robert et al., 2009). Trusting belief is affected by individual perceptions of ability, integrity and benevolence and leads to trust intentions (Robert et al., 2009). Trust intentions may include delegation to others or willingness to transact (Robert et al., 2009; Wells et al., 2011). As workplaces become ever more digital and as the global population increasingly interacts digitally, swift trust will be increasingly relevant for individuals, organizations, and teams (Germain & McGuire, 2014). Thus, in designing systems for users and employees, great care must be taken to ensure optimal swift trust outcomes. Users can also develop swift trust with websites and online vendors (Li et al., 2009; Lowry et al., 2007) because user interfaces are evaluated quickly (Pengnate et al., 2019).

2.5. Presentation Flaws and Swift Trust

Users develop swift trust through initial impressions of the design and functionality of a website (Karimov et al., 2011; Li et al., 2009; Lowry et al., 2007; Pengnate et al., 2019; Seckler et al., 2015). Many factors may improve these initial impressions of trust including the "prominence" of the site (Fogg et al., 2003), the presence of human images (Cyr et al., 2009), co-branding (Lowry et al., 2008), or other design factors including typography, color, quality, interactivity, and navigation (Faisal et al., 2016), among others. As discussed, swift trust with websites and online vendors can emerge from initial user impressions (Li et al., 2009; Lowry et al., 2007), yet little prior research has examined the connection between website malfunctions (i.e., presentation flaws and delays) and swift trust (see Everard & Galletta, 2005; Everard & McCoy, 2010). More importantly to this study, there exists a gap in the literature examining the connection between presentation flaws, delays, their interaction, and the development in swift trust in fellow platform users where the user interface and response times are outside the control of users. Despite developers' best efforts, websites fail, are delayed, and crash, and amidst the wealth of research on initial trust, little research has examined how website malfunction affects users' initial assessment and swift trust in other

people who interact online. Our research question can thus be formulated as follows:

How does the presence of presentation flaws and/or delayed websites affect users' initial perceptions of trustworthiness of others in virtual environments?

3. Theory

We use signaling theory as our framework to develop our theoretical model (Adam et al., 2023; Mavlanova et al., 2011; Wells et al., 2011) and incorporate ideas from priming (Bartelt et al., 2013), and the concept of negativity bias (Rozin & Royzman, 2001). In signaling theory, people make evaluations based on the signals (or cues) that are presented to them in situations where they do not have full information (Wells et al., 2011). This explanatory mechanism explains how individuals develop swift trust when they have barely interacted with people or an interface. The initial impression is formed as people quickly evaluate signals using heuristics that ignore difficult-to-process information and focus on easily processed cues (Kim & Benbasat, 2009).

Professionals signal quality to users by applying design principles that convey credibility, positive emotions, and trust. But these signals may be circumvented in the presence of presentation flaws. Prior research has shown that presentation flaws affect user behavior (Everard & Galletta, 2005) and some types of flaws (e.g., security warnings and messages) can signal fear to users in hopes of changing user behavior (Boss et al., 2015; Lowry et al., 2023). Some have suggested that external signals of environmental flaws may even encourage unethical or illegal behavior by signaling fear and disorder (Grimes et al., 2014; Keizer et al., 2008). We argue that the presentation flaws found in a website will affect the user such that fear-based signals and signals of compromised environments will negatively affect users' perceptions of others and affect swift trust (Boss et al., 2015; Grimes et al., 2014).

Our first hypotheses concern the effects of website presentation flaws on users' initial trusting behaviors. Swift trust helps explain the behavior exhibited by recently formed teams (Meyerson et al., 1996) who must rely on initial signals in their trusting evaluations. Within the swift trust literature, perceived risk has a profound effect on trust and factors into a person's assessment of trust and willingness to trust in others (Denise M. Rousseau et al., 1998; Mayer et al.,

1995). This is especially true for virtual teams who rely on technology (Robert et al., 2009). We posit that presentation flaws signal negativity, frustration, or subconscious fear to users that will not only affect the website or platform but will also carry over to people and content found on the website or platform. Research on negativity bias finds that negative information affects people more strongly than neutral and positive information. We would expect that any negatively valenced information will overshadow the positive or neutral aspects of web design and priming participants towards negative evaluation (Rozin & Royzman, 2001). This priming effect (Bartelt et al., 2013) will cause the processing of the presentation flaw signals to immediately affect participant swift trust. Users will unconsciously attribute the negative valence of their emotional response to the flaw to the target of their evaluation. We hypothesize that website presentation flaws will have salient negative effects on two swift trust dimensions, that of trusting belief and intention to delegate. Trusting belief refers to the perceived trustworthiness of the group/individual, while the trust intention refers to the willingness of an individual to delegate responsibilities to others (McKnight et al., 1998). Presentation flaws will signal that individuals and content should not be trusted. Thus, our first hypotheses are:

H1a: The presence of presentation flaws will negatively affect individual evaluations of initial trusting beliefs.

H1b: The presence of presentation flaws will negatively affect individual evaluations of initial propensity to delegate.

The theoretical mechanism by which delays signal to users is similar to presentation flaws. When presented with delays, users feel frustrated. Studies of website delays have examined the contexts, length, and tasks where website delays have significant effects on users (Galletta et al., 2006) and negatively affect users' attitudes and task completion, even when delays are only a few seconds long (Galletta et al., 2004). When delays signal that something is wrong or force users to wait, that cognitively makes users evaluate their experience more negatively. Even if the content or person they are evaluating is only a user of the website, we posit that the negative evaluation will spill over and cause the targets to be evaluated as less trustworthy. We would therefore expect delays to have a main effect on the users' perceptions of the swift

trust dimensions of trusting beliefs and intention to delegate. Therefore, we hypothesize the following:

H2a: The presence of interface delays will negatively affect individual evaluations of initial trusting beliefs.

H2b: The presence of interface delays will negatively affect individual evaluations of propensity to delegate.

We have theorized that presentation flaws signal to users an initial impression of negativity because of the presence of visual manifestations when something is wrong. Presentation flaws are largely caused by the agency of the designer or website operator. They may include typos or grammatical errors, select colors, layouts, or navigation elements that are unappealing, misconfiguration of the site so that links, images, or videos are broken, and others. Delays, on the other hand, may be caused by slow connectivity outside of the control of the designers. More importantly, delays elicit frustration from waiting while presentation flaws elicit negative response from presented visual signals. We expect each of these to impact swift trust, but we posit that the different types of malfunction will reinforce each other so that users evaluate targets more negatively. Put formally, we expect there to be an interaction effect between presentation flaws and delays where users that experience both will evaluate others even more negatively. Thus, we predict that:

H3a: Delays will moderate the interaction between presentation flaws and individual evaluations of initial trusting beliefs such that presentation flaws will have a stronger effect on initial trusting beliefs when delay is high than when delay is low.

H3b: Delays will moderate the interaction between presentation flaws and individual evaluations of propensity to delegate such that presentation flaws will have a stronger effect on propensity to delegate when delay is high than when delay is low.

4. Method

We conducted an online experiment with a 2x2 factorial design. 514 participants were recruited from a large, public university in the western United States. All participants were enrolled in an introductory accounting, information systems, human relations, or marketing course. Our participants ranged in age from 18-58-years old with an average of 24.2 years-old. 52.7% identified as female, 46.7% as male, and 0.6% as non-binary.

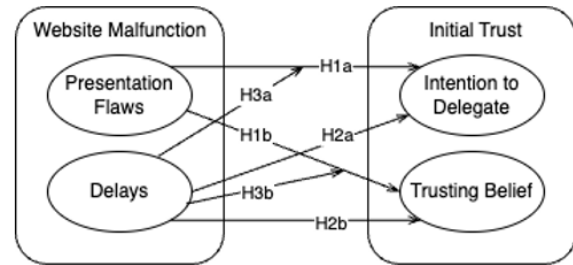


Figure 1. Proposed Research Model

4.1. Task

We chose to use an established task from the swift trust literature to increase control during our online experiment. We adapted the swift trust vignette task from Robert et al. (2009) so that the transcript of the group discussion was presented as taking place over a group chat modality instead of email or face-to-face so that it would be more appropriate to our participant population and the online setting. In this task, participants were asked to view and evaluate the communication of three fictitious undergraduate students from different universities assigned to work in a virtual team on a single group project. The three students were designed so that Tom shows high benevolence, Peter has the strongest technical ability, and Jane demonstrates high integrity. We asked participants to evaluate the participants immediately after learning their names and university affiliations and then again after they read the transcripts of the group text message discussion detailing the process and results of the group project. See Robert et al. (2009) for the full task or Dennis et al. (2012) for another adaptation of this task.

4.2. Independent Variables

Table 1. Random Treatment Assignment

	No Flaws	Flaws Present	Total
Non-Delayed	131	133	264
Delayed	129	121	250
Total	260	254	514

We randomly assigned participants to one of the four treatments (see Table 1). The presence of presentation flaws was manipulated by displaying images that signified issues with the site in between each page as users navigated. Participants in the conditions with presentation flaws viewed one image with garbled text (i.e., Zalgo text versions of the next

page), broken image symbols, or the "Aw, Snap" page crash error message used by the Chrome browser in between pages (see Figure 2). These visual presentation flaws were visible for 3 seconds in the transitions between pages. Participants in the delayed conditions had six second delays between the loading of pages as they navigated through the site. No content, loading screen, or progress bar was presented. Participants only saw a blank screen. Six seconds was chosen to be long enough to elicit frustration, but not so long that the experiment would be abandoned. Participants in the delayed and flawed treatment were provided either delay or visual flaw between pages in an alternating pattern. The non-flawed, non-delayed treatment acted as our control group. We also included four pages unrelated to our IVs and DVs so that participants had the opportunity to experience our manipulations prior to our task. Participants in the treatment groups experienced either presentation flaws or delay manipulations (or both) after each page visited including consent forms, demographic questions, and each page of the three pages of the vignette task. In total, treatment manipulations were experienced six times prior to the assessment of the dependent variables.

4.3. Dependent Variables

Our primary interest in this study was in how presentation flaws and delay would affect perceptions of trust. Following Robert et al. (2009), we used the same trust belief and trust intention measures that they adapted from Jarvenpaa et al. (1998), Mayer and Davis (1999), and Schoorman et al. (2016). We examined the difference scores between evaluations of trusting belief and trusting intention before and after the vignette was read. We also used the same measures of risk perception, ability, benevolence, and integrity adapted from Jarvenpaa et al. (1998), Mayer and Davis (1999), and Schoorman et al. (2016) as control variables. Participants evaluated each of the characters in the vignette separately on trusting belief and trusting intentions as well as the control variables.

5. Results

The results of our data analysis suggest that some interface website “malfunctions” significantly impact swift trust. We first evaluate our manipulations and then test our hypotheses.

5.1. Manipulation Check

Participants were asked two manipulation check questions about whether the website was “working well today” and whether they “experienced technical difficulties” in completing the experiment. The answers to both questions were significantly affected by the presentation flaws condition ($F=86.23$; $p < 0.001$ for working well and $F=173.46$; $p < 0.001$ for technical difficulties) as well as the delayed condition ($F=12.78$; $p < 0.001$ for working well and $F=27.41$; $p < 0.001$ for technical difficulties) indicating that the manipulations were effective, and participants were cognizant of the malfunction manipulations.

Tom: Peter, I haven't seen the web pages online yet.
 Peter: I have! I started yesterday but it shouldn't take long.
 Tom: But you promised to last night and said that the pages were completed and online.
 Peter: I'm sorry - I thought I could have it done by now.
 Tom: Don't waste the code you have at hand and I will finish it.
 Peter: I don't know how to thank you. I'll do it.
 Tom: Hey, don't be a nerd. You already got a solid B- in this class. So if you guys want to be A's, it'll be OK with me. And don't worry about the book, I'll pull some up later. Are you pretty good with databases? Because I'm not.
 Tom: Not really, but I am willing to learn.
 Tom: In that case, you can help me with the database for the e-mail entries.
 Tom: Sure. Remember that we only have 300 e-mail entries to push into my system. Let's work together. We can get this done.

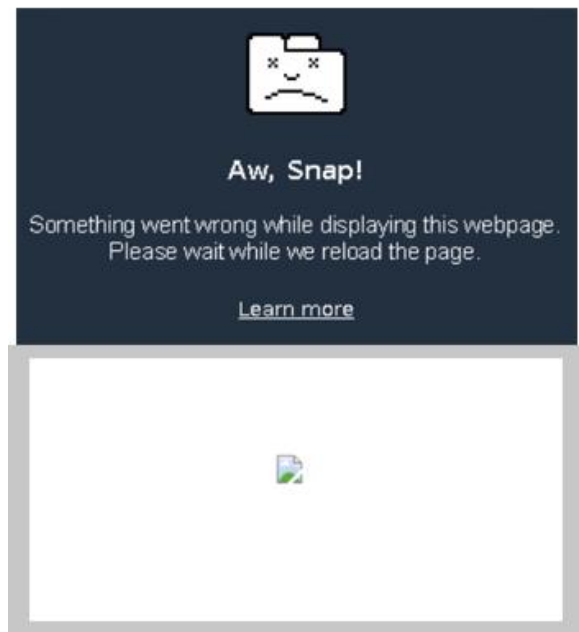


Figure 2. Three Different Presentation Flaw Manipulations

5.2. Hypothesis Testing

We analyzed our data by performing MANOVA using the general linear model (GLM) functionality in SPSS. Participants rated each fictitious group member individually, and we therefore tested perceptions of each character separately on each trust dimension.

5.2.1. Presentation Flaws. As expected, H1, the hypothesis that flawed interfaces make changes in trusting belief and delegating worse, were both supported for all three characters: the change in trusting belief ($p = 0.005$, $p = 0.003$, $p = 0.044$) was worsened, as well as the change in willingness to delegate ($p = 0.027$, $p = 0.005$, $p = 0.034$). Interestingly, presentation flaws also had a significant effect on the integrity measure for the most capable, but least-affable character depicted.

5.2.2. Delays. H2a and H2b argued that delays would have a negative effect on the change in initial trusting perceptions of the characters depicted. These hypotheses were not supported; while other studies have shown the effect delays have on perceptions of the website itself, we found no support for the idea that website delays will influence the initial trusting beliefs ($p = 0.97$, $p = 0.756$, $p = 0.296$ or intention to delegate ($p = 0.904$, $p = 0.815$, $p = 0.993$) amongst site users.

5.2.3. Interaction Effect of Presentation Flaws and Delays. The interaction effects of presentation flaws and delays, called “website malfunction” in this study, were theorized to have a significant negative effect on the change in users’ swift trust behaviors. Here again we found mixed results. We found that a participant’s change in trusting belief for our least competent, most likable character was significant when in the presence of both presentation flaws and delays ($p = 0.045$) and not significant for our most competent, least likable character ($p = 0.081$). A summary of our experimental results can be found in Table 2.

Table 2. Experimental Results

H1a	Presentation Flaws → Trusting Beliefs	Supported
H1b	Presentation Flaws → Delegation Intention	Supported
H2a	Delays → Trusting Beliefs	Not Supported
H2b	Delays → Delegation Intention	Not Supported
H3a	Presentation Flaws x Delays → Trusting Beliefs	Partially Supported
H3b	Presentation Flaws x Delays → Delegation Intention	Not Supported

6. Discussion

Our study found that presentation flaws signal negativity to users such that swift trust perceptions of individuals are less positive. Participants evaluated others as less trustworthy and were less inclined to

delegate to them when they had experienced presentation flaws in their online interactions.

We found that delays may exacerbate the impact of presentation flaws on swift trusting beliefs for some people. When users encounter malfunctioning websites, the joint signaling of both flaws and delays elicits a response where user swift trust impressions are less positive than can be accounted for by delays and flaws alone. Clearly, designers, administrators, and users need to understand the effects that interface malfunction has on initial trusting impressions of users on digital platforms.

Surprisingly, we did not find main effects for delay on the swift trust dimensions and the interaction effects were not as consistent as we anticipated. This may have been caused by our delay manipulation. Potential reasons for this and future research directions are discussed in this section.

6.1. Implications for Researchers

Our research demonstrates that one type of website malfunction, presentation flaws, can impact users’ initial trust perceptions of others. Crucially, we did not evaluate swift trust perceptions of the owner or organization creating the website, but rather had users evaluate the interactions of other people on the platform. Even though the evaluation targets did not design, create, or maintain the website, we found that the signals of flaws processed by our participants negatively affected the evaluation of the other users. The signals of malfunction presented by the interface may have primed the evaluators (Bartelt et al., 2013) and subconsciously, the evaluators have been presented with negative information salient enough to bias their impressions of unrelated targets (Rozin & Royzman, 2001). Further research is needed into the cognitive and emotional processing that underpin how these signals affect swift trust assessments, especially given the natural human response to respond more strongly to negative information. As more online interactions are platform-based (e.g., social media), HCI researchers should examine how interface design and responsiveness affect not only impressions of the platform, but of other users and content. How are sellers on marketplace platforms like Etsy affected by website malfunction caused by the platform? Do users ascribe flaws and delays in social media platforms to other users of the platforms, or do those malfunctions subconsciously affect their impressions of just the platform itself? More research is needed here.

We used signaling theory to drive our theorizing. But our conceptualization of signaling relies on unintentional signals of flaws and delays whereas the theory derives from evolutionary biology of

purposeful signals expressing fitness. We need to examine the role of inadvertent signaling as a theoretical mechanism for impression formation. Incorporating other theoretical perspectives may help better explain our results and guide future research.

We did not find, however, that swift trust was affected by website delay. It may be that delays do not signal negativity or distrust in the same way that presentation flaws do. More research should examine this. Familiarity mediates the relationship between delays and user reactions (Galletta et al., 2004) and our website design that included colors associated with the university of our target population may have been too familiar to our participants. Additionally, we chose six second delays to cause frustration, but not to make participants abandon the experiment. This may have been insufficient to signal frustration as the duration could be below the threshold recommended to keep users happy, but within an acceptable range of a users' willingness to accomplish online tasks (Asthana et al., 2015; Galletta et al., 2004). Our participants noticed the delays, but did not change their evaluations due to them, except when the delays moderated the effect of presentation flaws. Future research should examine different delay durations to establish if a threshold of unacceptable delay exists for digital swift trust online, especially as media has moved towards shorter, catchy messages optimized for shorter attention spans in the era of TikTok. What levels of presentation flaws are acceptable to users, similar to thresholds previously described for website delays?

Finally, we found that delays moderated the influence of presentation flaws on trusting beliefs with some of the target characters. In the task we used (Robert et al., 2009), the characters were designed to emphasize benevolence, technical ability, and high integrity respectively. Even though our delay manipulation may have been insufficiently long to induce change, when coupled with presentation flaws, there was some effect on trust. This may be due to the combination of slight delay with frustration was sufficient to cause frustration or salient enough to signal that something was wrong when delay was not by itself. More research is needed to examine how presentation flaws and delays jointly affect swift trust evaluations of targets with different characteristics.

6.2. Implications for Practitioners

Industry reliance on digital modes of communication and information dissemination is more pronounced than ever (Smite et al., 2023) and understanding the effects of interface design and responsiveness on user impression formation is of significant importance. Our results demonstrate that

presentation flaws negatively affect evaluations of other users which may cause users to disengage from the platform which may have financial impacts (Everard & Galletta, 2005; Gallino et al., 2023; Taylor et al., 2016; Wells et al., 2011). For companies engaging in more online interactions, a particular focus must be given to actively preventing website malfunction, and not merely focusing on positive aspects of design. A highly risk-averse company should consider the effects that malfunctions have on the interpersonal relationships between not only their consumers, but their employees as well.

6.3. Limitations

In our study, participants interacted with a static website platform. While students were presented with a variety of manipulations and delays, we did not vary other aspects of website quality and participants were not able to navigate in ways we did not control. Future work could examine interactive websites and tasks involving navigation. Participants in the flawed conditions were exposed to all the flaw manipulations throughout the experiment; thus, varying degrees of presentation flaws were not examined and should be in the future. As discussed, we used six second delays and this may have been insufficient to evoke our hypothesized effects, and future research should vary delay duration in tandem with presentation flaws and quality manipulations to examine thresholds for swift trust's main effects amongst users. Our participants viewed a blank screen during the delay manipulation and future work should evaluate other visual options (e.g., progress bars and loading screens) as these can impact delay perceptions (Hong et al. 2013). Finally, we chose our task to maximize control, but future research should examine other task types and closer to what a participant might encounter in daily life.

7. Conclusion

Swift trust evaluations of people become more negative when evaluators interact with platforms containing presentation flaws; this effect may be exacerbated by the presence of delays. Understanding how swift trust formed on digital platforms through the signals sent by the online platform is a matter of importance for researchers and practitioners as interpersonal trust so often forms quickly during key online interactions.

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