

# THE EFFECT OF FACIAL CUES ON TRUST IN E-COMMERCE SYSTEMS

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## ABSTRACT

*Trust is more important - but also harder to win - when interacting online than face-to-face. This is due to the presence of more risks and fewer cues of trustworthiness. Thus, e-commerce systems have to be designed in a way that allows users to build trust. It has been shown that facial cues can elicit affective responses and influence the perception of trustworthiness. However, there is also evidence that images of faces can decrease the usability of interactive systems. This research aims to investigate how facial cues (static and dynamic) can be used to enrich user experience and to build trust without reducing the usability of a system.*

## Keywords

Trust, Usability, User Experience, E-commerce, Facial Cues.

## 1. INTRODUCTION

Trust is a central factor in interpersonal interaction. Trust decreases the financial cost of transactions, makes collaboration more pleasant and allows for cooperation that would otherwise not take place. For distant interaction, trust becomes even more important. Interactions that are carried out over spatial and temporal distance and that involve technologies that are poorly understood carry more risk than face-to-face interactions [3]. At the same time, it becomes harder for individuals to assess a partner's trustworthiness, as many of the cues present in face-to-face interaction are not transmitted via the technologies used. The persistent 'lack of consumer trust' in online-shopping, as well as problems of trust within virtual teams, are examples of this highly relevant problem. Therefore, when

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designing online systems for consumers, HCI experts must go beyond the traditional measure of usability and also design for trust. Many HCI researchers investigate how *cognitive trust* in e-commerce can be built through elements such as policies and third party assurance [1]. However, the *affective* dimension of trust has been widely neglected. This research focuses on the affective dimension of trust.

Interaction with organisations that is stretched over time and space and mediated through technical systems has been described as *dis-embedded interaction* [3]. Trust in dis-embedded interaction can be built through personal trust in representatives, which is usually based on periods of face-to-face interaction. This process is called *re-embedding* [3]. For developers of interactive systems, it is of interest to isolate those elements of face-to-face interaction that signal personal trustworthiness, so they can incorporate them into the design of e-commerce systems.

The face is a very important source of socio-emotional cues. This insight has been used in the advertising industry for a long time: rather than showing a product in detail, most of today's adverts show attractive people using the product. Advertisers have found that photographs of faces attract attention and create an immediate affective response that is less open to critical reflection than text we read [4]. Findings from neurologists support this notion, as they demonstrated that face-processing is performed in a brain region distinct from those regions that deal with other visual or textual information [2].

Zheng et al. (2002) demonstrated that even the most basic implementation of facial cues, static photographs, can increase cooperation in experimental settings [5]. Steinbrück et al. [8] demonstrated that a photograph of an employee on an on-line banking website leads to an increased attribution of trustworthiness. In interactive systems, however, photographs of faces seem to have adverse effects on usability. Users claim that they 'clutter' the interface and distract them from their task, e.g. browsing product lists on an e-commerce site [7].

## 2. GOALS

In light of these conflicting results, the aim of this research is to clarify how facial cues can be used to

enrich user experience and to build trust without decreasing usability. To date, this research has focused on static cues: photographs. In a further stage, dynamic facial cues in the form of video will be investigated.

### 3. STATUS

Prior to this PhD an explorative study on consumers' perception of trustworthiness of online shopping sites was conducted [6]. One of the main results from this study was that the affective dimension of trust cannot be neglected – users need to be able to 'feel trust'. Therefore, efforts to build trust cannot solely be based on elements appealing to rational decision making. Hence, the second qualitative study focused on the effect of photographs of people on an e-commerce site [7]. The results of this study were mixed, as many participants displayed negative reactions to the photos or criticised them for decreasing the site's usability. Thus, a preliminary eye-tracking study was conducted to investigate the extent to which photographs attract users' visual attention and may interfere with the online-shopping task they are engaged in.

### 4. INTERIM CONCLUSIONS

So far, this research resulted in the following substantive interim conclusions:

1. Photographs of faces can lead to the attribution of trustworthiness in e-commerce systems but they also carry the risk of adverse reactions. Their effect strongly depends on implementation and personal variables, such as users' propensity to trust and usage orientation.

2. Photographs of faces have no effect on task performance. However, they do attract visual attention, but only on a first time view of a page. Hence, they might increase user cost when users avoid looking at them on subsequent pages.

From a methodological perspective, this research has benefited from exploring the high-level problem of consumer trust with qualitative methods (e.g. Grounded Theory) before formulating hypotheses and conducting tightly controlled experimental studies.

### 5. FUTURE WORK

The question of the effect of photographs on usability calls for experimental approaches that combine eye-tracking studies with measures of task performance and user cost (through e.g. physiological measurements [9]).

With a view to enriching user experience and building trust, the mixed results of the previous qualitative study need to be clarified through experimental studies that allow isolating the effect of personal and implementation variables (such as photo size or content).

A second stage of this research will then investigate dynamic representations of facial cues, again by exploring the problem with qualitative methods first.

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