

Interpersonal Cues and Consumer Trust in E-commerce

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ABSTRACT

E-commerce stretches interactions over space and time, and thus requires more trust than traditional shopping. Current approaches to building trust in e-commerce focus on cognitive trust. Human trust decisions, however, are also based on affective reactions, which can be triggered by interpersonal cues. This research investigates the effect of visual interpersonal cues on users' trust in e-commerce. First results from this PhD indicate that visual interpersonal cues in the form of photographs have an effect on users' decision making. This effect, however, strongly depends on context variables, as well as individual differences. A further issue under investigation is the potential negative effect of interpersonal cues on task performance. Thus, in a next stage, this research will combine eye-tracking with physiological measurements to investigate effects on task performance and user cost.

Keywords

Trust, E-commerce, Interpersonal Cues.

INTRODUCTION

Consider shopping in the real world: When a customer enters a shop for the first time, she sees the interior, goods and staff. Visual cues allow her to evaluate the shop's professionalism and competence. Furthermore, interaction with service staff will impact the customer's trust.

On-line transactions, as they are stretched over time and space, are *dis-embedded* [3]. Dis-embedding is a common phenomenon in modern societies. It makes decisions more complex [4] and increases the need for trust [3]. Hence, designers of e-commerce systems need to design these systems in a way that allows users to build trust (e.g. in B2C e-commerce) but also to encourage trustworthy behaviour among users (e.g. in C2C e-commerce).

Most work in this area is focused on developing guidelines for 'trustworthy interface design' and assurance mechanisms [7]. Largely, this body of work sees trust as a

rational expectation – based on signalling good past performance (reputation and ability), interest in future interaction (investment in a relationship), or submission to a control agency (e.g. a trust seal provider). Trust based only on these factors has been described as *reliance*, or *cognitive trust* [1]. Human trust decisions, however, encompass cognitive and affective elements. This is captured in the sociological concept of *re-embedding* [3]. It states that trust in dis-embedded interactions commonly is maintained through personal, affective trust bonds. Thus, the focus of this research is on hitherto neglected affective trust in e-commerce. Results are likely to be beneficial to practitioners who design e-commerce interfaces (B2C and C2C) but will also provide basic understanding for novel approaches that rely on emotional signalling, such as interactive video assistance or embodied agents.

INTERPERSONAL CUES

Initial affective trust is built through interpersonal cues that result in immediate affective reaction. Fogg [2] found that photos accompanying on-line articles can increase their credibility and Olson et al. [5] found that photos of players increased cooperation in social dilemma games played via text-chat. This even holds in situations where interpersonal cues carry no information on the other actor's trustworthiness [3]: Advertising has long relied on imagery of 'friendly faces' to build a positive attitude to products and trust in brands.

RESEARCH RESULTS TO DATE

An early qualitative study [11] on online-shoppers' decision-making confirmed the increased need for trust in e-commerce. Furthermore, shortcomings of approaches purely focused on cognitive trust – such as trust seals – were identified. These findings together with encouraging results from related studies (see previous section) resulted in focussing this research on affective trust and the effect of visual interpersonal cues. Based on Giddens' concept [3], this approach was termed *virtual re-embedding* [7, 11].

A first qualitative study on the effect of interpersonal cues, implemented as photos of employees and customers [10], yielded mixed results. Participants' responses ranged from enthusiastic welcome to increased mistrust. Many participants who reacted negatively to the photos claimed that they reduced the usability of the site, as they made it

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harder to identify the functional elements they were looking for. This claim is supported by general web-design guidelines and eye-tracking studies on magazine reading, which found that interpersonal cues such as eyes on a photograph attract visual attention. Eye-tracking studies on web browsing, however, found that users largely ignore photos. Within this PhD research, a preliminary eye-tracking study was undertaken to test the effects of photos of faces on visual attention [9]. The photos attracted visual attention on a first time view of a particular page. However, on subsequent views of the same page layout they were ignored. Neither on a first time view nor on subsequent views, negative effects of the presence of a photo on task performance were found.

In order to test for an impact on trust, a quantitative experiment investigating the effect of different photos across several sites was undertaken [8]. This study confirmed that photos have an impact on users' decision-making under risk. However, whether this impact is positive or negative appears to depend on interactions between site and photo variables. An alarming result is that the photos seemed to decrease users' ability to correctly differentiate trustworthy from untrustworthy vendors.

METHODOLOGY

After initial qualitative studies, using Grounded Theory methods, it came clear that trust can not solely be investigated with interviews or questionnaires, due to individuals' desire to appear as rational decision-makers. Trust research only based on such methods would underestimate the impact of affective pre-rational elements in decision-making [6]. Thus, in order to investigate the effect of interpersonal cues on trust and subsequent decisions, methods from experimental economics that rely on decision-making under financial risk have been adopted [6, 8]. In this experimental set-up, participants' pay depends on correctly identifying trustworthy sites. This approach allows analysing the effects of interface elements not only on perceived trustworthiness, but also on the accuracy of participants' trust attribution. This aspect is crucial, as researchers should not only be concerned with elevating trust levels, but enabling correct trust-decisions.

NEXT STEPS

On a methodological level, the newly introduced decision-based measure of trust in online vendors needs to be further refined. Results won with this experimental method need to be shown to hold under field conditions where real rather than surrogate risks are present [6]. On a substantial level, the interactions between site and photo variables need to be further explored and tested, as they currently are based on explorative data analysis [8]. Potentially negative effects of interpersonal cues on task performance or user cost will be investigated through eye-tracking combined with

physiological measures [8].

To date, this research focussed on visual interpersonal cues implemented as photos. In the next stage, richer implementations, such as pre-recorded video and animated assistants will be investigated.

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