

"Trust me, I'm a .com"

The problem of reassuring shoppers in electronic retail environments

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Surprisingly, one of the leading advertisers on the Internet in the past half-year has been TRUSTe [1], an organisation that assigns seals to e-commerce enterprises which it considers 'trustworthy'. In order to raise its profile, TRUSTe has instigated an internet-based publicity campaign involving between 200 and 700 million weekly impressions for its adverts [2]. Why? The number of B2C (Business to Consumer) e-commerce retailing activities has not reached the dizzying heights predicted 18 months ago. Consumers' "lack of trust" in e-commerce is widely assumed to be one of the main reasons.

RISKS IN E-COMMERCE

In complex situations - i.e. those which involve a large number of risks, or risks that are not well understood - people need to base their decisions on trust. The risk most people mention in connection with on-line shopping is that of credit card misuse. Other risks that worry would-be e-shoppers include:

- whether the personal details they supply will be passed on to other parties;
- whether the e-tailer will actually deliver the products or services;
- whether they themselves interact correctly with the system; and finally,
- whether the data is transmitted correctly.

On-line shopping is thus a very complex situation in which people require more trust than in traditional shopping environments: Most would-be e-shoppers do not have sufficient experience - and hence expertise - to fully assess the underlying technology and its risks. An additional factor is that shopping transactions are spread over time and distance, which increases the risks for the parties involved.

About the authors

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The study

The findings presented in this article are based on a model of *on-line consumer decision-making*. The model is based on a literature review and an in-depth analysis of interviews with 13 e-shoppers and non-shoppers of varying experience, using a social science method called *grounded theory*. The model and user interface design guidelines for e-commerce sites were then used to construct 2 mock e-commerce sites (one designed to induce trust, the other not). In a comparison in a trial with 53 participants, the 'trustworthy' site

significantly helped to increase trust in fulfilment.

Lack of experience & knowledge

The lack of experience and knowledge is a problem on an individual and collective level. Firstly, on an individual level, the prime risk that stems from a lack of experience is the danger of interacting incorrectly with the system - e.g. accidentally ordering an unwanted item. Secondly, e-shoppers find it difficult to estimate the reliability of an on-line vendor, because they do not know what 'professional' or 'trustworthy' sites look like. In the real world, consumers know the signs of professionalism and trustworthiness, but they lack an equivalent repertoire for on-line shopping. Some participants in our study firmly believed that it is not possible to draw any conclusions from a site's appearance - after all, "*anyone could set up a professional-looking on-line shop.*"

The third problem is a lack of knowledge of the underlying technology. Most e-shoppers cannot judge the veracity and accuracy of media reports on Internet security. As a result of such reports, many would-be e-shoppers worry about risks that are non-existent or very small indeed.

Conventions

Many authors writing on e-commerce attribute the existing lack of trust to the relative novelty of the Internet. Once conventions have been established and individuals perform on-line shopping habitually, they argue, the trust problem will go away. People's trust is usually based on an '*expectation of continuity*', and the basis for trusting someone is not usually re-evaluated for any specific decision. Our findings, however, suggest that the novelty of the medium - and thus the lack of habit and conventions - is only one of several factors increasing the demand for trust in on-line shopping.

The fact that customer and retailer in on-line shopping are separated in time and space is inherent in the medium, and will not be overcome with time - the '*trust problem*' is therefore not likely to go away with increasing familiarity.

SEPARATION IN SPACE & TIME

At the core of every economic transaction lies a situation known as '*prisoner's dilemma*': if both parties choose to maximise their own benefit (i.e. take the other party's exchange item, but keep their own), the transaction will not take place and both participants lose out. The risk of one party acting in this way can be minimised by co-presence of both parties: If I go to a shop and I do not receive the item after paying, I could exercise physical power on the shop assistant, or I could try to grab my money back. If the shop and I are embedded in the same legal system, I can rely on my trust in that legal system should there be need to enforce the rules. If the transaction is separated in space, I may not have these options; thus, the transaction bears a higher risk and an increased demand for trust. Furthermore, I cannot see the shop's interior nor the shop assistant, and thus I have few cues for my decision whether to trust this retailer or not.

Similarly, the separation in time (e.g. payment is made before goods are received) increases the risk of the transaction. If the goods are to be received within seconds after payment, the customer will realise quickly when she is being defrauded, and take remedial action. If a product ordered on-line is to be received after 2 weeks, it might be harder to track down the other party when it does not arrive.

This separation of transactions over space and time is called '*dis-embedding*' by sociologists - a pervasive concept in modern societies and by no means unique to on-line shopping. Catalogue shopping, for instance, faces the same problem. But due to the global nature of e-commerce, the degree of 'dis-embedding' is higher.

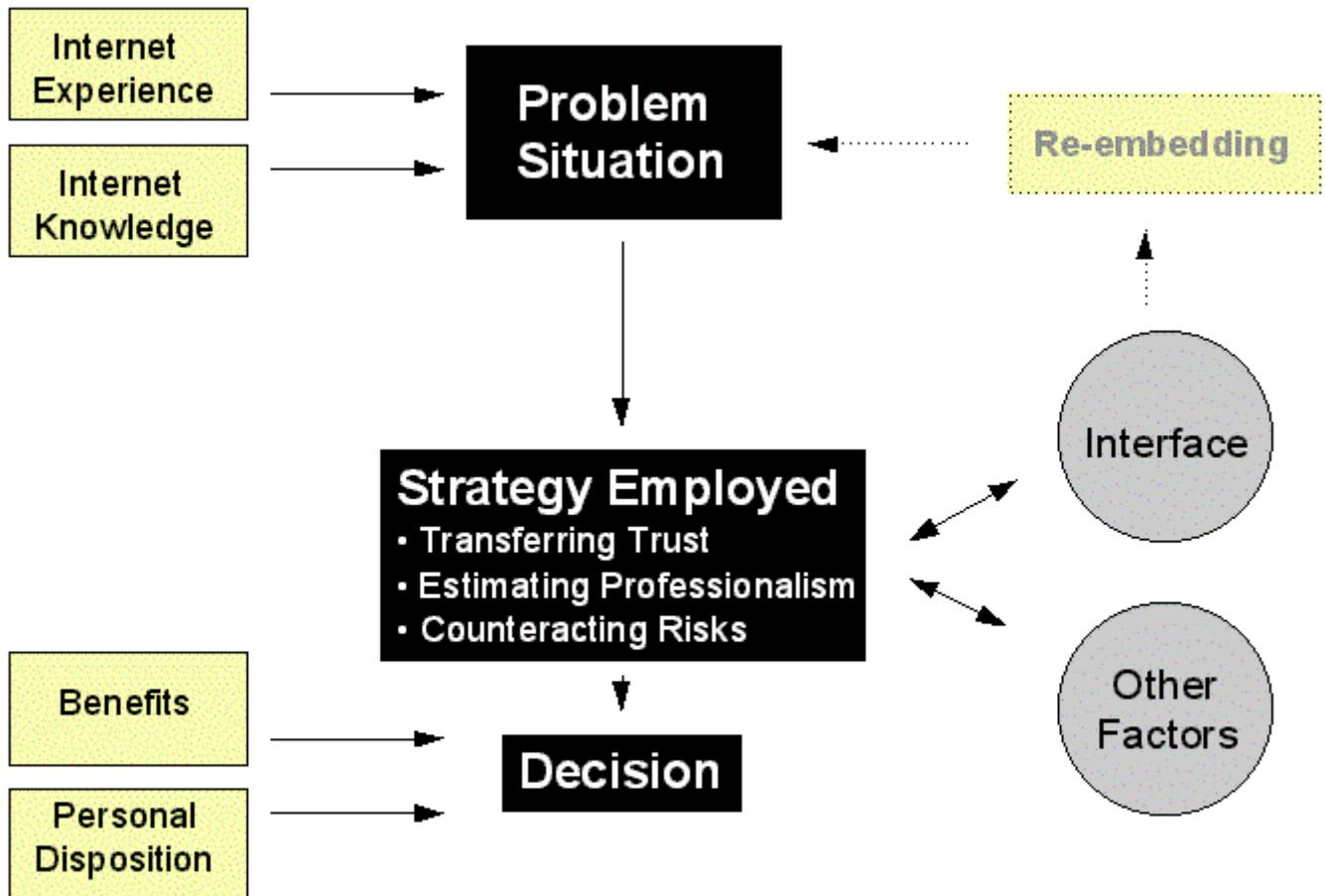
We suggest that the oft-proclaimed "lack of trust in Internet shopping" needs to be re-defined as an *increased need for trust*, based on the nature of the transaction - and currently - inexperience of the e-shoppers.

E-shopper Decision-Making

How then, we asked, do potential e-shoppers decide who to shop with in such a risky environment? We identified three strategies that e-shoppers use depending on their level of knowledge and experience with the Internet. Ultimately, e-shoppers' decision "*to buy, or not to buy*" is influenced by (1) the on-line retailer's performance under the strategy used (e.g. if the on-line retailer has a well-known brand), (2) the perceived benefit (e.g. how much they can save compared to other sources), and (3) their personal disposition (e.g. how high a risk they can bear).

Inexperienced e-shoppers are likely to '*transfer*' trust: they will give on-line shopping a first try with retail organisations they are familiar with, or those that have been recommended to them. Reputation appears to be the biggest single influence when would-be e-shoppers decide to 'lose their virginity'. This importance of transferred trust gives established players who have a strong brand an advantage in e-commerce. At the same time, however, it exposes their traditional business to considerable risk: Trust transfer works in the other direction as well [3]: If I have had bad experience with the on-line shop, I may begin to doubt the competence of the organisation as a whole, and stop using the physical shop.

Experienced e-shoppers build up a 'repertoire' of professional-looking e-commerce sites, similar to the one they have for traditional shops, and thus base their trust evaluation on interface factors - they estimate the on-line shop's professionalism. Very experienced and knowledgeable shoppers only consider specific risks (e.g. fulfilment), and try to counteract those directly (e.g. through checking for order tracking facilities or other means of contact).



A model of on-line consumer decision-making.

We can expect 'trust transfer' to gain in importance and specific risk counteraction to lose in importance, as less knowledgeable and experienced e-shoppers enter the e-commerce arena [4].

SOLVING THE 'TRUST PROBLEM'

Reducing Risk

The most obvious approach is to use technological solutions to directly address the risks involved in on-line shopping. This entails improved payment services, such as SET [5] or technological approaches to privacy like the 'Platform for Privacy Preferences Project' (P3P) [6]. As mentioned before, these solutions are however only of use to e-shoppers who can identify specific risks, and if the technological solutions are - at least in their basics - understood.

A further reduction of risks will be achieved when legal and regulatory frameworks - addressing the transaction itself, e-shoppers' privacy and statutory rights - have been achieved. An implementation on an international level, however, seems far away; thus, other strategies have to be pursued concurrently.

Increasing Trust

There are several approaches to address the e-shopper's strategy of 'transferring trust': trust/privacy seals and reputation mechanisms are the most prevalent ones.

Seals

A seal is an icon assigned to an on-line retailer by an independent body, such as the previously mentioned

TRUSTe. The seal certifies that the site complies with certain guidelines for on-line business conduct. There are two potential problems with seals: Firstly, they need to be trusted themselves. Whereas the Better Business Bureau (BBB) [7], another provider of seals, is a well-known and trusted institution in the US, European e-shoppers will not have a high level of trust and thus cannot infer trust from its seals.

Secondly, the seals have to be protected against illegal usage; i.e. there needs to be some mechanism to verify the authenticity of a seal. The latter is relatively easy to achieve, but the problem of the trustworthiness of the certifying body remains. Thus, seal programs offer new business opportunities to established, trusted organisations. They can capitalise on their trustworthiness by transferring it to on-line retailers for a fee: Established auditors - e.g. Ernst & Young - are entering this field.

The success of such trust seal programs, however, is disputed. Results from Studio Archetype/Sapient & Cheskin [8] support the impact of trust seals, but Cranor et al. [9] and our research suggest they have limited impact.

Reputation-sharing

Another way of transferring trust are reputation-sharing mechanisms, as currently used by on-line auctioneers such as eBay [10]. They aggregate individual e-shoppers' ratings of other participants' trustworthiness and, based on these, assign each participant a reputation rating [11]. This approach could also be incorporated by trust seals: basing their approval on customer ratings rather than solely on compliance with set guidelines would increase their usefulness. Personalised reputation mechanisms that take account of how our friends rate an on-line retailer would model the real world more exactly: We place the highest confidence in recommendations from friends who had prior experience with an on-line retailer. Organisations such as sixdegrees [12] that try to model social networks on-line could offer such a service.

MIT's Kasbah [13] takes this idea one step further: Kasbah is a software agent, that finds goods offered by other agents on the Internet and negotiates with the seller's agent, taking in account its owner's preferences and the seller's reputation rating that has been established in the collaborative manner described above.

Re-embedding

Trust develops over time, but it needs to be based on some initial - potentially irrational - cue. Face-to-face social interaction can be such a cue. Trust in dis-embedded systems is commonly upheld by involving real social interaction at some point of the otherwise impersonal interaction - i.e. by re-embedding a part of the interaction: Business people and academics alike fly around the globe not only to negotiate or give presentations, but more importantly, to update their basis of trust. Simple trust cues can also help to build trust in complex systems or technology. Hence, re-embedding measures can provide a basis for trust in on-line shopping. This idea has already been applied by Softbank, of Japan, who re-embedded the final part of on-line shopping via Japan's dense network of convenience stores: After ordering on-line, Japanese e-shoppers can retrieve and pay for their goods at their local 7-Eleven [14].

The role of interface design

The role interface design can play in overcoming the initial threshold for on-line purchasing is limited: Potential e-shoppers need to transfer trust through recommendations or possibly through *trust seals* (such TRUSTe) and *reputation mechanisms* (see above). Interface design here can only support trust through explicit endorsements (e.g. from well-known experts) or through links to outside sources that make positive reference to the e-tailer [15]. Another approach is to show that the site is used by many other e-shoppers: Amazon's customer recommendations on even minor books allow shoppers to conclude that

they must have a large customer base. *"Q: But why do you think it's so well established? A: Well, because they always have customers' comments on really minor books. Which I never thought [laughs] anyone else is reading"*.

Estimating professionalism

For experienced e-shoppers, the quality of the user interface is the most important factor when deciding whether to shop with an e-tailer or not. By complying with off-line business standards (e.g. disclosure of terms & conditions, upfront disclosure of shipping costs) and to web standards (e.g. good URL, good usability, order tracking), an on-line retailer can signal professionalism and thus increase trust. One participant stated: "They're considering the needs of the user and they want it to be a good experience."

Counteracting specific risks

The risks that can be directly mitigated by interface design are e-shoppers own errors and faulty transmission. Through good interaction design (e.g. status indicators, playing back data already entered) the e-shopper can be assured that she does not accidentally commit herself to an order and that all data is received correctly. Fulfilment risks can be counteracted by giving alternative ways of contacting the e-tailer (recourse) or by the previously mentioned order tracking, which helps to minimise the impact of separation in time.

Re-embedding & Para-social interaction

Para-social interaction [\[16\]](#) refers to the way TV personalities 'interact' with their audience as if they were engaging in a real conversational give and take. In "The Media Equation", Reeves & Nass (1996) argue that we treat not only traditional media, but also computers very much like people we interact with in reality, suggesting that para-social interaction could be used for virtually re-embedding parts of on-line shopping. Thus, the interface could provide initial cues for building trust, making use of para-social interaction. As the effect of such measures depends on a medium's richness (its ability to convey non-verbal cues), this strategy can be expected to gain in importance once broadband access to the Internet becomes widely available. Below are some current examples:

- On-line retailers can show the people 'behind' the on-line shop front, by e.g. using email addresses that carry the employees' name or showing a picture of a member of staff that is responsible for a particular transaction. In our tests with mock e-commerce sites, these measures were received positively.



>> Enter Personal Details
Enter Payment Details
Receive our Confirmation

Welcome!

My name is Helen Smith and I am the customer manager currently on duty here at UCL DOTCOM. I will be



responsible for your order and if you should have any queries regarding our order process, please do not hesitate to contact my team via [email](#), [live-chat](#) or via phone 020 7387 7050.

What to do here:

Please enter your address details for delivery. If you choose to provide a password, you will not need to re-enter this data, when you come back later for other orders.

Our privacy guarantee

We will not give access to your personal

Delivery Details

Title (Mr/Mrs/Ms)

First Name(s)

Surname

Email Address

Address

City

Post Code

Country

Please choose a password

By choosing a password you will be able to save your delivery details when you place orders. It will also allow you to track your order once it is submitted. We will use your data to contact you and we will not pass it to third parties.

You may also choose to login with your email address. We will then not store your details.

Password

Retype password

Proceed to next step

- Using a webcam, on-line retailers can allow e-shoppers to inspect the production process: In a trial, buyers of organic eggs could watch the hens laying them at www.bergquell.de.
- As a third way of 'virtual re-embedding' many sites now experiment with *agents* or *avatars* to simulate social interaction: Examples include www.AskJeeves.com and Boo.com. These current efforts are however unsatisfactory, because the technology creates an expectation it cannot meet: the illusion of a real conversation with mutual understanding breaks down rapidly, and this has an adverse effect on trust.

CONCLUSIONS

The current 'lack of trust' in e-commerce should be re-conceived as an 'increased need for trust' due to the novelty and complexity of dis-embedded transactions on the Internet. Increased familiarity, technological and legal/regulatory solutions will help to reduce the current reluctance of customers, but cannot be expected to totally overcome it. The importance of brands, personal recommendations, and reputation suggest that the conditions of on-line retailing favour big players which either have an established brand or can afford to build a strong presence with a large customer base.

Whereas the ease of disseminating information on the web has allowed small start-ups with new services to become known instantly through word of mouth, the situation is different for on-line retailing, specifically when targeting less Internet literate e-shoppers. They will use trust in known retailers as a 'shortcut' to avoid individual risk/benefit calculations in a complex environment. The trend towards big players is further amplified by the fact that e-shoppers with some experience base their trust on the site's compliance with web standards. According to Jakob's law [17], the most visited sites have de-facto standardising powers. Thus the web, again works in favour of either e-tailers that have been there first, or that can command a high customer base through their size.

Most traditional dis-embedded systems rely on elements of re-embedding. For e-commerce these could be real, as trials in Japan show, or virtual, through re-embedding via the interface. Promising examples

include the use of webcams to look 'backstage', personal style in communications, and a screen presence of the people 'behind' an on-line shop.

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