

ARE MEDIA CUES REALLY A KEY DRIVER TOWARDS TRUST IN BUSINESS TO CONSUMER E-COMMERCE

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Keywords: E-Commerce, E-Vendor, Internet, Online Shopping, Saudi Arabia.

Abstract: E-commerce B2C yet suffers from consumers' lack of trust, and most of the research in e-commerce field focuses on how to build trust through cues that appeal to pursue consumers to do on-line purchasing. Since the nature of the Internet is lack of interpersonal exchanges that enhance trust behaviour, in this study we compared on-line consumers' initial trust on four on-line vendors with the interpersonal cues of a person representing customer supports (Western photo, Saudi photo, Western video clip) and without photo through an extensive lab experiment. We found that the photograph and the video clip enhanced the initial trust than no photo and that the effect of the culture was stronger with Saudi than Western photo. Nevertheless, we presented many results that benefit the academic and the practitioner respectively.

1 INTRODUCTION

Commerce is one of the oldest activities that men have known. With the growing popularity of the Internet, it is only natural that commerce found its way into this medium. This kind of commerce where business is carried out using electronic means is referred to as "electronic commerce or "e-commerce" (EC). EC allows regional businesses and economies to be less local and more global in keeping with long-term trends toward market liberalization and reduces trade barriers. Accordingly, EC is considered to be an unavoidable alternative for companies of the 21st century (Adam, 1999).

There is no universally accepted definition of EC (Ngai and Wat, 2002). Using (Turban et al., 2004) definition of e-commerce, "E-commerce is described as the process of buying, selling, or exchanging products, services, and information via computer networks, including the Internet.". There are several different types of EC, such as "Business-to-business (B2B), which refers to e-commerce between businesses or other organizations, and Business-to-consumer (B2C), which refers to the e-commerce model in which businesses sell to individual

shoppers." (Turban et al., 2004). This paper focuses on B2C e-commerce.

2 THEORETICAL FOUNDATION AND HYPOTHESES

The issue of trust has been addressed from different perspectives, including technological, social, and institutional approaches; behavioural, and psychological approaches; managerial, and organizational approaches, marketing and e-commerce (AlDiri and Hobbs, 2006). Customer trust is a significant issue in EC since online services and products are typically not immediately verifiable (Gefen and Straub, 2004). Customer trust significantly affects new customer acquisition, customer retention and purchase intentions (Ba and Pavlou, 2002). Customer trust also significantly affects information-technology (IT) adoption by online customers (McKnight and Chervany, 2001), since customers need to trust an IT before they adopt it. In contrast, lack of trust is often cited as a significant barrier to e-commerce adoption; it is one of the most frequently cited reasons for customers

not purchasing from Internet (Egger, 2002). From this perspective, how the buyer is afforded an opportunity with trust is an important research issue and a big challenge for online firms (Koufaris and Hampton-Sosa, 2004). Also it has become increasingly important to understand the factors which influence consumer purchase decisions in the web context (Siala et al., 2004). Trust is a complex and a hard to describe concept that has been widely studied (Ambrose and Johnson, 1998); it remains numerous and confusing (Stewart, 1999). However, the most commonly cited definition of trust in various contexts [according to (Rousseau et al., 1998)] is the “willingness of a party to be vulnerable to the actions of another party based on the expectations that the other will perform a particular action important to the trustor”, as proposed by (Mayer et al., 1995). This conceptualization of trust, which is also known as “trusting intentions” (McKnigh et al., 2002) and trustworthiness (Jarvenpaa et al., 2000), is based on a set of beliefs that others upon whom one depends will behave in a socially acceptable manner by showing appropriate integrity, benevolence, and ability (Doney and Cannon, 1997); (Gefen, 2002); (Mayer et al., 1995); (McKnigh et al., 2002). These three beliefs are labelled by most research as “trust beliefs” (Gefen, 2002); (McKnigh et al., 2002), although (Mayer et al., 1995) labelled these as “trustworthiness”. Ability deal with the e-Vendor's knowledge, competence, and provision of good service. Integrity deals with the e-Vendor's honesty and keeping of promises. The benevolence deals with the e-Vendor's benevolence, willingness to assist and support, and with consideration toward the customer. Trust is defined by some research as behavioral intentions, by others as beliefs, and yet by others as a mixture of both.

The existence of multiple definitions of trust in the research is probable due to two reasons (McKnigh et al., 2002): First, each discipline views trust from its own exclusive perspective. Second, trust by itself is a fuzzy term. The other difficulty has been that empirical research has driven most definitions of trust, and one needs only to define one type of trust to do empirical research. Within the compact e-commerce domain of research, trust has been defined as a willingness to believe (Clarke, 1999), or an individual's beliefs, regarding the various attributes of the other party (Yamagishi and Yamagishi, 1994).

In the online context, the definition and operationalization of trust has been a source of considerable debate (AlDiri and Hobbs, 2006). Very

often, trust has been defined as a belief regarding the characteristics of the company to be trusted (Kumar et al., 1995; Luhmann, 1979; Mayer et al., 1995; Fung and Lee, 1999; Menon et al., 1999; Stewart, 1999). Those characteristics usually include the company's integrity, benevolence and competence or ability, all of which comprise the company's trustworthiness, as perceived by the customer.

In this study a further isolated type of perceived company trustworthiness was examined by using only new customers in the study sample. Therefore, the results indicate how customers develop initial trust beliefs in a company online after only their first visit and without having any prior experience with the company (McKnight et al., 1998; McKnight et al., 2002). Past experience with a company was recognized as an important determinant of customer trust but this study does not examine it. Instead we look at how information gathered during an initial interaction with the web site can affect the customer's initial perceptions of the e-commerce vendor's trustworthiness.

2.1 Online Trust and Interpersonal Cues

In contrast to face-to-face commerce and to other applications, there are typically no social interactions in e-commerce websites, neither direct nor implied (Gefen and Straub, 2004). Online vendors face a significant challenge in making their virtual storefront socially rich (Kumar and Benbasat, 2002). Online consumers' perceptions of social presence cues which are also known as interpersonal cues have been shown to positively influence trust and their subsequent intention to purchase from a commercial website (Chong et al., 2003), (Kumar and Benbasat, 2002). In the field of human-computer interaction (HCI), (Nass et al., 1996) created a paradigm of “Computers Are Social Actors” (CASA); this approach by some researchers has been referred to as “virtual re-embedding” (Riegelsberger and Sasse, 2002). The CASA paradigm suggests that social dynamics and rules guiding human-human interaction apply equally well to human-computer interactions. Many studies have testified the CASA paradigm (Lee et al., 2003). Under this paradigm, researchers constantly found out that individuals tend to think of media (i.e. computers, computer interfaces, agencies, computer generated voice, etc.) as their counterparts - intelligent social beings - when they are interacting with them. Instilling a sense of human presence and sociability can be accomplished by providing the

means for actual interaction with other humans or by stimulating the imagination of interacting with other humans.

In a Web context, actual interaction with other humans may be incorporated through Website features such as e-mail after-sales support, virtual communities, chats, message boards, socially-rich picture content, socially-rich text content, human audio, human video, avatar, and human Web assistants (Lee and Turban, 2001), (Kumar and Benbasat, 2002), (Zheng et al., 2002). The pictures effect may be even more distinct, but not consistent in research studies. However, research on the use of personal photos in website is a little bit contradictory, with some studies finding such images to be a positive cue ((Nielsen, 1996); (Fogg, 2002);(Steinbruck et al., 2002), while others finding them to be neutral cues (Riegelsberger and Sasse, 2002). It should be emphasized, then, that the studies on applying social cues, especially photographs, to website design are still at a preliminary stage. However, many researchers are presently applying potentially effective methods to enhance online trust by adding a substitute human presence and actual contact opportunities to the otherwise impersonal e-commerce interface (Wang and Emurian, 2005). As a result of the foregoing it is hypothesised that:

H-1: Subjects differ significantly on their rating of initial trust and trust intention across vendor's websites.

H-2: The higher rating of vendor's websites trustworthiness will be for those presenting video clips then for that with photos than for those without photos respectively.

2.2 Website Design and Culture

The global nature of the Internet raises questions about the trust effects across cultures as well. The creation of virtual organizations brings specific consequences for communication (El-Shinnawy and Markus, 1998). Specifically, non-face to face communication becomes more important as technology shrinks the world, bringing multiple cultures into virtual relationships, and increasing global communication and business opportunities.

There are several reasons to assume that culture may be an important factor in on-line trust (Clarke, 1999). Online trust research has been limited to a western context (Pavlou and Fygenson, 2006). Although trust has been examined for many years, most of the research on consumer trust focuses on consumers in English-speaking countries and newly industrialised countries (Lee and Turban, 2001).

However, the trust theories and mechanisms developed in the western context might not apply for other societies, especially since cultures may affect the antecedents of trust (Chong et al., 2003). Also, the global nature of e-commerce has recently led researchers to question whether the trust effects that they have identified generalise across different cultures (Siala et al., 2004).

There are many studies comparing the formation of consumer trust between two different countries, e.g., (Lee and Turban, 2001). They provided empirical evidence that trust directly influences consumer attitude across cultures; i.e., trust is important for all cultures studied. Thus, there is a need to re-examine the notion of trust and identify its determinants in the context of different markets and cultures (Lee and Turban, 2001) since it represents a central imperative (Jones, 2002). The implications of these kinds of research are significant as an exploratory step for how various elements of web design must be considered in the context of culture, and for accessibility of increasingly larger non-English-speaking populations to the Internet (Cyr and Trevor-Smith, 2004). The lack of cultural and linguistic integrity in direct B2C models could be one of the reasons why B2C e-commerce is lagging behind B2B (business to business) e-commerce (Siala et al., 2004). Symbols are an important element denoting culture (Marcus and Gould, 2000). Symbols are "metaphors" denoting the actions of the user (Barber and Badre, 2001), and it can be varying and may represent a wide range of features (Fernandes, 1995). One important form of symbols is multimedia relating to culture which few researchers have examined. On the basis of the discussion above, the following additional research hypotheses were proposed:

H-3: Across websites including human portraits there will be significant statistical differences in their trustworthiness between websites with local interpersonal cues and websites with foreign interpersonal cues.

H-4: Saudi subjects will trust a website with Saudi interpersonal cues (photo) more than a website with Western interpersonal cues (photo).

2.3 System Assurance

Much literature, specifically related to the trust model and its derivatives, suggests that trust also depends on system assurance which is also known as Institution-Based Trust (McKneigh et al., 2002). Accordingly, system assurance and trusting disposition can be added as control variables. (Teo

and Liu, 2005) have defined system assurance as “the dependability and security of a vendor's online transaction system, which enables transactions through the Internet to be secure and successful”; This construct comes from the sociology that people can depend on others because of structures, situations, or roles that provide assurances that things will go fine. Hence, it was hypothesized that:

H-5: The more positive/negative the Institution-Based Trust, the higher/lower the level of initial trust in the e-vendor.

2.4 Dispositional Trust

Dispositional trust or propensity to trust is a “generalized expectation about the trustworthiness of others” (McKnight, et al., 2002). It is a measure of an individual's propensity to trust or distrust others, or it is the general willingness to trust other people. This construct comes primarily from psychology. It is influenced by previous experiences, personality attributes, and cultural background (McKnight et al., 2002). Much research has revealed that an individual's propensity to trust has a major influence on initial trust (McKnight et al., 2002, Gefen and Straub, 2004). Since individuals differ considerably in their general propensity to trust other people based on the mentioned factors, it is reasonable to hypothesize that:

H-6: The higher the consumer's propensity-to-trust, the higher the level of initial trust in the e-channel.

3 METHODOLOGY

This study was designed as a one-factor experiment manipulating three levels of Website interpersonal cues. Each of the four specially-designed websites displayed the same products but each represented different vendors. Only the interpersonal cues elements were manipulated on the sites. Thus, this study attempted to investigate and examine the effects of the interpersonal cues or the social cues that can be manipulated by facial photo, video clip, and culture as control variables, which used Saudi and Western people in each of the interpersonal cues when forming the initial trust toward online vendors.

In addition the study set out to measure some auxiliary variables that have been discussed in the literature i.e. propensity or disposition to trust and system assurance or Institution-based trust.

3.1 Experimental Websites

The researchers first made an observational survey for Saudi society to discover what are the most popular and interesting online products for the Saudi. The researcher found that the laptop is the product that satisfies these conditions. Beside these factors this product carries a considerably higher financial risk than buying other simple online products; so this can be used in this kind of experiment.

The researchers then used the four most famous reviewer business sites; BizRate.com, ResellerRating.com, PriceGrabber.com, and Epinion.com to facilitate the task of rating four online shopping sites based on specific criteria. In this selection western shopping sites were selected as they constituted a realistic scenario with relatively high risk, due to the vendor and the users being in two different countries. The selection was based on the high trustworthiness of the vendors, and the number of reviewers of the selected site.

Semi-functional copies of the websites were designed including the homepage and some subsequent layers depending on the available links in each layer, so that participants were able to browse and search general information on the site, such as ‘about us’, privacy and security policies including access to detailed product descriptions. Also any certification or reputation seals that were present on some pages were removed. The media cues (photo, video clip) were put in an appropriate and attractive place in the first page of the site showing the selected product (without deleting or hiding anything from the page itself). This page was connected to the entire website; so the subject could browse and search the site.

The perceived trustworthiness of the photos that were used in the experiments needed to be established in a pre experiment. This also served to establish how professional and ‘real’ the photos were in representing a customer service. More than sixty candidate photos were collected of men (western, and Saudi), which were reviewed and the most suitable were chosen to represent the appropriate professional customer representatives of an online shopping site. Five professionals in computing and business were then invited to rate the photos and select the most appropriate. These photos were then subsequently used in these experiments. For the video clips, the same procedure was followed. See figure-1

3.2 Data Collection

Data for this research experiment was collected through questionnaires, targeted at general Internet users, in the context of experiments. All experimental tasks during this research experiment were performed in a computer laboratory. The research instrument to measure the constructs of interest was developed by adapting existing measures from the literature to the current research context (Teo and Liu, 2005) and (Gefen et al., 2000), (McKnight et al., 2002), (Kammerer, 2000). All items were scored on a five-point Likert-type scale ranging from (1) strongly disagree to (5) strongly agree.

As the experiments were conducted in Saudi Arabia (Saudi being predominantly Arabic-speaking) the questionnaire, originally written in English, was translated into Arabic by a bilingual person whose native language is Arabic. The Arabic questionnaire was then translated back into English by another bilingual person.

These two English versions were then compared and no item was found to deviate significantly in terms of language. This process was conducted not only because it can prevent any distortions in meaning across cultures, but also because it can enhance the translation quality.

The questionnaire consisted of five sections that extracted some demographic characteristics, online purchasing experience, propensity or disposition to trust, and system assurance or Institution-based trust and items reflecting the most common initial trust belief dimensions, which are ability, integrity, benevolence (Gefen and Straub, 2004), and the trust intentions, that is, intention to engage in trust-related behaviors with the Web vendor. Subjects for the study were general Internet users representing undergraduate and graduate students at a famous computer training institute. The use of student subjects was deemed appropriate since online consumers are generally younger and more highly educated than conventional customers, which makes student samples closer to the online consumer population (Saarenp and Tiainen, 2005). Thus students are quite representative of online shoppers.



Figure 1: Snap shot of experimental websites.

3.3 Experimental Procedure

At the beginning of the experiment all participants were asked to open the experiment window on their computers and read the introduction that explains the objectives of the experiment and the total estimated time that it would take (namely 45 minutes). This study induced financial risk in a laboratory situation. While it does not fully represent a real-world risk, however, it allows combining a laboratory setting with some elements of real-world risk by informing

participants that the experiment website trustworthiness has been assessed and rated by independent business reviewer sites where one of their tasks is to identify the trustworthiness of each shopping site, and whose rating matches the real rate of the trustworthiness which will be entered in a lucky draw with prizes up to a laptop and a mobile phone set which will be offered in a random draw conducted at the end of the study. Then participants were asked to fill out sets of questionnaires that elicited some demographic characteristics, online purchasing experience, disposition to trust, and system assurance. Each subject was then asked to look at the four websites and perform a general browsing in the websites. This involved looking at the website and then evaluating this e-commerce vendor using the online vendors' trust questionnaire. This process was repeated for all of the four websites. To control the effects, the order of presentation of the four experimental websites was completely counterbalanced. When subjects finished seeing all the four websites and filling in their questionnaires, they were asked to do another task. In this task participants were asked to assess the websites that they had seen, and to rank them according to their preferences.

4 DATA ANALYSIS AND DISCUSSION

All the data analysis was conducted using SPSS windows software package version 12. A total of 72 subjects participated in this study, all of them males, with ages between 18-25 and 26-35 respectively, most of them (79.2%) preparing for bachelor degrees in computer studies at a major Saudi computer institute. As expected, this group was 'Internet-savvy' with over 39% of the respondents spending between 6-10 hours online per week. On average, the majority made at least 1 online purchase per week and (28%) of the respondents spent 2000SR and more per online purchase. As mentioned above, the vendor trustworthiness questionnaire was built to cover all the common dimensions or factors of trust belief that the researchers in this field mostly agree with, namely integrity, ability, and benevolence. Also it tested the subjects' trust intention regarding online vendors that they saw. Bivariate correlation (Kendall's tau-b) results showed the correlation between the most common constructions of trust belief for each website significant at the 0.01 level.

4.1 Testing the Research Hypotheses

To test the first hypothesis (**H-1**), a nonparametric K-Related samples, Kendall's W test was computed between each of the trust belief factors and trust intention for all the websites to see if there is any significant statistical difference between subjects' answers regarding the trustworthiness of the four websites. Results showed that the subjects differed significantly on their rating of their initial trust and trust intention regarding the four vendors' websites and in the light of the overall statistical significance ($p < .05$) the first hypothesis was supported. See table-1.

Table 1: Kendall's W test for Trust Belief and Trust Intention for the four websites.

	Trust dimensions			Trust Intention
	Ability	Integrity	Benevolence	
N	72	72	72	72
Kendall's W	0.201	0.138	0.039	0.148
Sig at 5%	Yes	Yes	No	Yes

For the second hypothesis (**H-2**) in order to test this hypothesis, we have compared the average mean value for the three dimensions of trust belief and trust intention between the four websites, See Table-2. Subjects rated the initial trust and trust intention for photo website as the highest, the video clip website next, and the no photo website as the lowest. Thus, the second hypothesis was partially supported, since the vendor with video clip came in the second rank rather than the expected first position. A possible explanation for this unexpected result is that the video clip was not recorded to professional standards. For the third hypothesis (**H-3**) the same procedure adopted for testing the first and the second hypothesis was used to test the third and the fourth hypothesis, but in this case between two vendors websites only (website with Saudi photo and website with Western photo). Kendall's W test showed the subjects differ significantly on their rating of their initial trust (ability and integrity of trust belief, but not for benevolence dimension) and trust intention regarding the two vendors websites as a result of the overall statistical significance ($p < .05$), the third hypothesis was fully supported see table-3.

Table 2: Mean Value for Trust Belief and Trust Intention for Each Website.

Website	Dimension	Mean value
Website with No photo	Ability	3.73
	Integrity	3.42
	Benevolence	3.50
	Trust Intention	3.07
Website with Western photo	Ability	3.89
	Integrity	3.67
	Benevolence	3.55
	Trust Intention	3.43
Website with Saudi photo	Ability	4.26
	Integrity	4.07
	Benevolence	3.78
	Trust Intention	3.69
Website with Western video clip	Ability	4.15
	Integrity	3.92
	Benevolence	3.80
	Trust Intention	3.52

Table 3: Kendall’s W test for Trust Belief and Trust Intention for website with Western photo and website with Saudi photo.

	Trust dimensions			Trust Intention
	Ability	Integrity	Benevolence	
N	72	72	72	72
Kendall’s W	0.321	0.298	0.017	0.056
Sig at 5%	Yes	Yes	No	Yes

With respect to the fourth hypothesis (H-4), we compared the average mean value for the three dimensions of trust belief and trust intention between the two websites, See Table-4. The result indicated that the subjects rated the initial trust and trust intention for website with Saudi photo higher than the website with Western photo. So the fourth hypothesis is supported.

Table 4: Mean Value for Trust Belief and Trust Intention for website with Western photo and website with Saudi photo.

Website	Dimension	Mean value
Website with Western photo	Ability	3.89
	Integrity	3.67
	Benevolence	3.55
	Trust Intention	3.43
Website with Saudi photo	Ability	4.26
	Integrity	4.07
	Benevolence	3.77
	Trust Intention	3.69

The fifth hypothesis about the system assurance (trusting Internet environment) (H-5) was tested using a non-parametric correlation test (Kendall’s tau_b test) between system assurance questions and the trust belief and trust intention questions in each website; no significant correlations between them were evident, so this hypothesis was not statistically supported. The same test was done with the dispositional trust (H-6) when no statistically significant correlation was found.

4.2 Preference Ranking

Participants were asked to rank the four vendors according to their preference. The question was phrased as follows: “Assuming that all sites offer the product you are looking for at the same price with the same condition, consider which site you would be most comfortable buying from.” In contrast to the other measures, this measure forced the participants to bring the vendors into a hierarchical order. The order of preference of all websites is presented in table-5.

Table 5: Order of Preference Rank for Each Website.

Rank	Website
First	Website with Saudi photo
Second	Website with Western photo
Third	Website with Western video clip
Fourth	Website with No photo

Finally many nonparametric correlation tests were carried out to see if there are any significant differences between the trust belief, trust intention and participants’ age, education level, Internet usage. The results showed no statistical significance differences between all these variables.

5 CONCLUSION

The results indicate that embedding of the interpersonal cues in a website is an effective strategy to increase consumer trust in an online-vendor. Displaying a portrait photograph helps to create interpersonal cues and bring the impersonal process of e-commerce closer to the familiar situation of a face-to-face conversation, since customers can develop a quasi-social relationship to

the person shown in the picture. The displayed person represents a real-world representative of an otherwise intangible, virtual company. Thus, s/he creates an entry point for the consumer to the on-line vendor and facilitates the establishment of customer trust. For the design of e-commerce websites it can be concluded that embedding a photograph or a video clip of a company's representative may be a simple, yet powerful way to increase the trustworthiness of an online-vendor. This experiment tested the effect of adding a facial photo from two different cultures (Western, Saudi) to an e-commerce vendor's homepage on user trust. It thus focused on the symbolic use of interpersonal cues. This goal, despite its importance for the development of trust in e-commerce, has not been addressed in previous researches. This experiment found that media cues in the interface are indeed able to affect a vendor's trustworthiness based on the surface cues it contains. A clear picture emerged regarding the effect of photos from different cultures. Most of the previous studies tested the effects of adding one photo to a mock-up of one e-commerce site. This experiment was aimed at overcoming this limitation by testing several photos on several semi-functional copies of existing vendors' sites. In addition, this experiment introduced a method for measuring trust that required participants to make decisions under conditions of financial risk. Finally during the experiment design there was an expectation that the website with the video clip would be ranked as the highest since video can display more interpersonal cues than photos, but this turned out not to be the case, possibly due to its lower quality. Further research will investigate how embedding can be done most effectively and how different re-embedding strategies interact.

6 IMPLICATION

Based on the findings of our experiment we suggest that web designers and e-commerce vendors should keep in mind the following recommendations when introducing e-commerce applications in Middle East countries in general and in Saudi Arabia particularly:

There is a significant effect of a media cue (photo, video clip) in B2C e-commerce websites. The positive attractive impressions of a media cue can thus help e-commerce vendors in the process of converting a visitor to a customer. The findings of this experiment underline the importance of the interface as a communicator of trustworthiness.

In B2C e-commerce applications it is very important to carefully select and design the various elements of web design in the context of culture. It is expected that when web sites are appropriate and culturally sensitive, then users will have increased access to content and enhanced user experiences.

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