

Human Photographs on trust in bank websites

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Abstract

On the Internet, trustworthiness is an issue and becomes more important as financial transactions continue to grow. According to our analysis of the top 20 largest US banks, fifty-five percent of the banks' homepages used human photograph(s). The purpose of this study is to examine how image choices of a male, a female, a family, a small group of people in an office, or a diverse group of people in photographs on a bank homepage will have the most positive effect on customers' perceptions of trustworthiness with regard to the website. For the research method, five mock-ups of a bank homepage were created with carefully modified and selected photographs from each image group. Then a web-based survey was conducted. The result, as determined by this study, reveals distinctions among ethnic groups. Asian participants tended to trust homepages using photographs of families the most and Caucasian participants tended to trust homepages using photographs of a small group the most.

Keywords

Bank website, Trustworthiness, Human photographs, Web design

Technology has changed the way people communicate. Dabholkar (2006) demonstrated that fifty-nine percent (59%) of online consumers visit aggregator sites before accessing websites to purchase (p.259). Consumers gather information, make comparisons, and access decision-making guides. Even though Internet technologies have grown fast and retail outlets have spread their businesses via e-commerce, a majority of the Internet users in the United States feel uncomfortable making payments online for the merchandise they want to purchase (Wang and Emurian 2005, p.106). Seventy percent (70%) of online shoppers abandoned a purchase because of security concerns (verisign.com, 2009, p.1).

Research provides some indications about which factors influence consumers' choices when rating a website (Dabholkar, 2006, p.259). Dabholkar's research showed that website credibility is an important consideration. Online customers want to be assured that they are safe in using the sites, and that the sites are reliable for the purchase they are considering.

Fogg et al. (2001) from Stanford University researched how people evaluate a website's credibility. In this study, participants viewed professionally designed websites and were asked to evaluate them for trustworthiness. Fogg and his associates interviewed 2,440 people to assess how web users determine credibility. Fogg's study found design features are more important than contents. In addition, design structure and layout are also important components in web site evaluation (Fogg et al., 2003, p.24). Fogg et al. mentioned that users' gather their own credible judgments about the websites they visit. Their first look at the website's design is the main issue in determining whether users keep looking for other sites or in determining whether the user will return because they do or do not trust the site (2003, p.26). There are a number of

considerations in the way websites are constructed that enhance visitor confidence in the site and therefore also increase return visits.

Trustworthiness is an abstract and subjective concept. However trust must be, at least partially, an element of the first impression of an e-commerce website. Wang and Emurian determined that trustworthiness is conveyed through four characteristics of web design: graphic design features, structure design, content design, and social-cue design (2005, p.106). Fogg's web credibility research supports that 'design look' and 'information design/structure' are top categories which determine online user's credibility of a website (2003, p5). The first contact of the website impacts impressions of credibility (Wathen and Burkell, 2002, p136). Naturally, the initial look of a website is affected by its design elements: color, typography, graphics, and layout.

According to our analysis of the top 20 largest US banks, fifty-five percent of the banks' homepages used human photograph(s). This analysis leads to a question on how viewers will perceive trustworthiness of various photos with different genders, single people, families, or diverse groups.

Steinbrück et al. conducted an experiment on how a portrait image affects customer trust on the site of a German online bank. They designed the site in three different versions. Version 1 showed a portrait photograph of a person with a label identifying that person as a customer service employee. Version 2 showed no label but used the same photograph as version 1. Version 3 did not have a photograph. The empirical study with three identical mock-up websites showed that Version 1, the portrait photography with label, was perceived as the most trustworthy compared to the two others (Steinbrück et al., 2002, p.749). Conversely, Riegelsberger and Sasse (2002) studied the tendency of some homepage images to produce feelings of distrust. This is true when the homepage images lead negative reactions. There are two reasons. One was that non-shoppers do not trust the photographs on a homepage. They believed the photo depicts a fake employee of the company. Another negative influence was when the shoppers believed adding photographs decreased usability by adding clutter and reducing access speeds (Riegelsberger & Sasse 2002, pp742-743). Li et al. studied different images of agents to find out how familiarity affects the trust. They found an agent which resembles the user trusted more than an unfamiliar agent (2007, p194-198). Another study by Riegelsberger et al. (2003) examined the effectiveness of images with genders. Homepage photographs of females received higher credibility ratings than males. However, no research found any changes in trustworthiness of homepages with multiple human photographs.

The purpose of this study is to examine how the image choices of a male, a female, a family, an office grouping, or a diversity group of people in the pictures on a bank homepage will have the most positive effect on customers' perceptions of trust in the website. This study will determine the type of human images that will appeal to most people in building trustworthiness of the bank's web page.

Research Methodology

Web designers need to understand how images, colors, and layout affect the communication of the website. To determine common web design elements of financial institutions, this study selected and analyzed the top 20 banks' homepages (accessed between April and November 2008). The top 20 bank's websites were selected from the US Online Banking Report. (onlinebankingreport.com)

Among the top 20 banks' websites, nine (45%) of the banks' homepages did not display any photographs of humans. Five websites, (25%) of the twenty bank sites studied, showed one person. Twenty-five percent of the banks studied placed the image (25%) of the main image area while five (25%) used one, usually small, human picture on the left side of the homepage (Table 1).

Table 1. Number of Portrait Photographs on main image area of 20 bank websites






Portrait Photographs	No	One	Two	Five or more
Number of bank websites	9	5	4	2
Percentage (%)	45%	25%	20%	10%

Overall, fifty-five percent of the banks' homepages used some form of human photograph(s). With this analysis, the research method was developed.

As the research method, five mock-ups of a bank homepage were created with carefully designed and selected photographs representing each group stated above. A self-administered web-based survey was tested to discover how the five-mock-ups work to give the impression of trustworthiness to the users.

All human pictures were purchased at <http://www.photos.com>, except the ethnic group picture borrowed from <http://question.bahai.org/> taken in March 13, 2009. Table 2 shows the five mock-ups of the website and its variables.

Table 2. Breakdown of five mock-ups of a bank website

Photographs	Websites	Design Variables		
		Apparel	Position / Gesture	Facial expression
A male		Suit	Sitting/put hands on desk	Smiling
A female		Suit	Sitting/hold hands together on desk	Smiling
A family		Casual wear	Sitting/parents hold their children	Smiling
A small group		Suit	One is sitting, three are standing	Smiling
An ethnic group		National costume	All standing	Smiling

The photographs were re-touched to minimize visual variables, which might affect visual perception. All pictures were cut to show their subjects' upper body while the sitting. For consistency, the female and small group pictures were transformed so the human figures seemed to lean more towards the left-hand side (from the viewer's point of view). Pens located in the man and women's hands were removed from the images. In the five photographs depicting a business setting, the subjects wore a suit, and used the upper part of the body. All of the humans' expressions included a smile or a near smile. Also all colors were converted to black and white to reduce the effect of this variable.

With those five mock-up websites, two questions were asked for this survey:

1. If these are pictures on your bank's website, which would cause you to trust the bank the most? and
2. Why did they select the photographs as the photographs that generated the most feelings of trust?

The survey collected participants' demographic information including gender, major, ethnicity, income range per month, experience with retail banks, experience with online banking, etc.

The participants were students enrolled at University and were 18 years of age or older. Survey participants were contacted by three methods—email, word-of-mouth, and fliers. One hundred eighty-eight participants completed the survey during spring 2009.

One hundred fifteen females and seventy-three males participated in the survey.

The ethnic background of the participants broke down as follows: one hundred twenty-seven Caucasian, fifty Asian, eight Hispanic, and three African American. The participant population was dominated by students from the College of Design (63.8%); one hundred and twenty students participated. The total number of participants outside the Design College was sixty-eight (36.2%)—thirty-eight females (20.2%) and thirty males (16%). Table 3 shows that most respondents of this survey were undergraduate students (69.1%). There were one hundred fifteen females (61.2%) and seventy-three males (38.8%), who participated.

Table 3. Participants by gender, statuses, and ethnicity

	Female				Male				Total		
	Caucasian	Asian	African American	Hispanic	Caucasian	Asian	African American	Hispanic	Female	Male	Total
Under-graduate	60	11	0	5	33	18	0	3	76 (40.4%)	54 (28.7%)	130 (69.1%)
Graduate	21	9	1	0	8	4	1	0	31 (16.5%)	13 (6.9%)	44 (23.4%)
PhD	3	5	0	0	2	3	1	0	8 (4.3%)	6 (3.2%)	14 (7.4%)
Total	84	25	1	5	43	25	2	3	115 (61.2%)	73 (38.8%)	188 (100%)

One hundred and one students responded they were accessing the Internet eight or more times daily (53.7%). Only two female participants from Caucasian and African-American backgrounds used the Internet less than once daily, but eighty-four (39.7%) participants connected to the Internet between two and seven times daily. One hundred seventy-seven participants (94.1%) had visited a financial homepage before the survey. There were eight (4.3%) participants who

did not have a chance to visit any bank websites yet.

Table 4 shows that twenty participants (10.6%) did not interact with Internet financial websites, however, one hundred sixty-seven (88.8%) had knowledge of banking through the Internet.

Table 4. Online Banking Experience

	Female				Male				Total		
	Caucasian	Asian	African American	Hispanic	Caucasian	Asian	African American	Hispanic	Female	Male	Total
Yes	77	21	1	3	37	23	2	3	102 (54.3%)	65 (34.6%)	167 (88.8%)
No	7	4	0	2	6	1	0	0	13 (6.9%)	7 (3.7%)	20 (10.6%)
Not answered	0	0	0	0	0	1	0	0	0	1 (0.5%)	1 (0.5%)
Total	84	25	1	5	43	25	2	3	115 (61.2%)	73 (38.8%)	188 (100%)

Discussion and Findings

Overall, the results indicate a small group photograph (35.1%) was perceived the most trustworthy followed by a family photograph (33%). The analysis shown in Table 5 indicates 7 participants (3.8%) selected the male photograph as the least trustworthy. This result supports Riegelsberger's research (2003). Eleven participants (5.9%) reported that human pictures do not create an impression of trustworthiness on the bank website. This result indicates that single images of females or males do not effectively create a trustworthy impression of the bank website. Both single images were rated lower than the homepage without images.

Table 5 Analysis of results: Photographs and Trustiness

	Female				Male				Total		
	Caucasian	Asian	African American	Hispanic	Caucasian	Asian	African American	Hispanic	Female	Male	Total
A male	2	1	0	0	3	1	0	0	3 (1.6%)	4 (2.1%)	7 (3.7%)
A female	5	1	0	0	2	1	0	0	6 (3.2%)	3 (1.6%)	9 (4.8%)
A Family	27	11	1	1	11	10	0	1	40 (21.3%)	22 (11.7%)	62 (33%)
A small group	35	5	0	2	18	5	1	0	42 (22.3%)	24 (12.8%)	66 (35.1%)
An ethnic	9	6	0	2	5	6	1	2	17 (9%)	14 (7.4%)	31 (16.5%)
None of these	6	1	0	0	2	2	0	0	7 (3.7%)	4 (2.1%)	11 (5.9%)
Not answered	0	0	0	0	2	0	0	0	0 (0%)	2 (1.1%)	2 (1.1%)
Total	84	25	1	5	43	25	2	3	115 (61.2%)	73 (38.8%)	188 (100%)

When breaking the data down by ethnic group, the result indicates that the family photograph appealed to more Asian participants than Caucasian participants in creating feelings of trust. The results of this study indicate that perceptions of trust for a financial institution's website increases, for Asian participants, by the inclusion of a family photograph and for Caucasians by a small group photograph. Because the African-American and Hispanic populations had only a small number of participants, the conclusion was indeterminate with regard to these populations.

This study used the SPSS (Statistical Package for the Social Sciences) program to analyze the data. The data indicates that a statistically significant correlation exists between ethnicity and perceptions of trustworthiness. Because the survey group was predominantly Caucasian and Asian, it was possible to compare these two racial groups. If the number in 'Asymp. Sig' of the Chi-squared table is less than 0.05, there is significant correlation. Table 6 reveals a pattern among Caucasian and Asian participants who were asked to select an image-based homepage they would be inclined to trust. Caucasians reported a sense of trust in response to the small group picture, but Asians reported that the family picture inspired the greatest sense of trust. There was evidence of a weak (0.62), significant correlation (table 6).

Table 6 Chi-Squared Test: between Caucasian and Asian

	Value	DF (degree of freedom)	Asymp. Sig (2-sided)
Pearson Chi-Square	10.529a	5	.062
Likelihood Ratio	10.748	5	.057
Linear-by-Linear	0.038	1	.846
N of Valid Cases	175		

As mentioned above, the participant population was dominated by students from the College of Design. However, Table 7 shows no significant correlation between the preferences of design and non-design college participants.

Table 7 Chi-Square of picture data comparing design and non-design participants

	Value	DF (degree of freedom)	Asymp. Sig (2-sided)
Pearson Chi-Square	18.790a	15	.223
Likelihood Ratio	20.703	15	.147
Linear-by-Linear	.033	1	.855
N of Valid Cases	186		

Question 2 asked participants why they selected the pictures of human subjects as the pictures that inspired the most trust.

The qualitative data corrected from question 2 indicates that participants perceived trustiness when photographs looked friendly and comfortable. Some participants' comments are as follows.

A small group photograph (35.1%)

Participants received professional and happy feelings from the small group picture. The reason most participants selected the small group picture was mostly because:

- Appropriate number of people to effectively run a bank.
- Looks like a friendly group, who appear they like to work together for customers.
- Combination of professional looking people.
- Looks like friendly bank employees.
- A small group makes me feel more like I am being taken care of best.

Another response was the group picture had a computer and it made the picture look more like a professional team. Since only option 4 contains a computer, this might have been a source of bias in this study.

A family photograph (33%)

Overall, answers about the family picture were that participants could trust this picture because it is family-oriented and the family structure provides a safe and honest feeling. Asian male participants said that ‘family oriented’ was important and it portrayed more powerful influences. Most participants who selected the family photo mentioned ideas such as:

- Feeling protected, comfortable, and safe.
- Family picture seems more comfortable, honest, and friendly.

An ethnic group photograph (16.5%)

The main reason for this answer was that there were many people from different backgrounds — both in diversity and national origins. It reminded participants of a bank with services connected to other countries. Participants received the impression from the image that the multi-racial people in the picture were a group or a team at a financial institution. Some participants answered that this picture reminded them of ‘Verizon network coverage’ as part of their positive judgment. Some other answers are as follow:

- A wide range of people letting me know they are there to help whoever is in need.”
- Prefer to work with a group rather than an individual.
- Seems like they are all staff at a bank.
- Diverse staff at part of a bank.

None of these (5.9%)

Only two females and one male of Caucasian out of six were provided comments about this picture. One said it did not really matter if a human picture was included on a bank website, but its services and protection were what mattered most. Another respondent mentioned none of the choices elicited trust.

A female photograph (4.8%)

Caucasian female participants read the woman’s leaning-forward body language in the picture as the reason why it created feelings of trust. Another answered, “she looks professional and authoritative.” An interesting comment from an Asian female was that she “trusted women more than men.”

A male photograph (3.8%)

The lowest ranked percentage was the male picture. However, some of the participants mentioned it looked more business-oriented and the male seemed to be an expert.

Conclusion

Internet banking is fast becoming one of the most popular online activities. Even though people dream about a more convenient life, they face important ever changing issues, such as online security. Each bank had differences in the design style of the homepage, which varied according to the number of human photographs, colors, font types, and layout. Through the

existing bank analysis, this research found that more than half of bank web sites use some type of human photographs on their homepage. Based on the analysis, this research explored five different photographs to find out which photograph will generate feelings of trust.

This study found that a small group or family photograph can increase perceptions of trust on an online bank website. Overall, the small group photograph was perceived the most trustful of the photos. However, if the online target population is largely Asian, a family photograph is likely to produce friendly and honest feelings.

Also this study found cultural preferences in perceiving trust with human-subject photographs. Asian participants favored a family photograph over a small group photograph. This result supports the well-known cultural dimension: individualism and collectivism. The United States is known as an individualism country and Asian countries such as China, Korea, and Japan are known as collectivism countries (Hofstede, 1997, p.53). This result indicates that understanding the target audience is important on designing websites to appeal and communicate with them.

An aesthetically appealing website design provides online users a pleasant feeling and invites them to trust the website more positively. Design features, design structure, and layout are important components to build feelings of trust in a website (Fogg, et. al, 2003, Wang and Emurian, 2005). The human photographs are an element among the components to enhance trustiness. All design components and usability should be considered in building a trustworthy website.

Limitations

This research has several limitations. First, mock-ups for this research were sized smaller most current websites. There were some technical issues that restricted image file sizes in the online survey website (surveymonkey.com). Second, the total population of the participants (188) was students studying at one state university in a Midwestern location in the United State. They were limited in this area as undergraduates, graduates, and PhD students. Therefore, these results may not be the same for other areas of the United States. Future studies should include a wider population sample. Third, the dominant population of participants (63.8%) was design majors in this study. The research had been contacted by three methods: email, word-of-mouth, and fliers. The research asked the participants to access the survey website individually. In these reasons, it could not be controlled the percentage of participants' majors. However, this could have biased the results even though there was no significant correlation between design students and non-design students (table 6).

Forth, the human pictures for the five mockups could not be able to be set exactly the same body language such as hairstyles, color of clothes, forms of body representation. These variations were remained to develop more accurate result on the study of credibility for the future steps.

Future research

The results of this study suggest several directions for future research. The most immediate direction is to obtain more precise research data. To do this an even larger population is indicated, particularly with regard to Hispanic and African-American groups. It appears there are correlations that relate human photographs and ethnicity. Therefore, future research should make additional efforts to incorporate cultural difference in diverse ethnic groups.

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