

Effect of Using Human Images in Product Presentation of E-Commerce Website on Trust, Fixation and Purchase Intention: A Design of Experiment

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Abstract—The main objective of the research is to study effect of using human images in product presentation on electronic commerce website on (1) trust, (2) fixation and (3) purchase intention when buyers are males or females. The five conditions of using human images in product presentations are (1) a female presenter with positive facial expression, (2) a female presenter with neutral facial expression, (3) a male presenter with positive facial expression, (4) a male presenter with neutral facial expression, and (5) product presentation without a presenter. This research will use data collected from an experiment conducted in a research unit. The instruments that will be used in the experiment include (1) five websites of a hotel with five different conditions of product presentation, (2) questionnaires to collect trust and purchase intention, and (3) Mirametrix S2 Eye Tracker to collect fixation. This paper presents a design of experiment that will be used for the research. Also, this paper reports results of the preliminary study, the process of developing five suitable websites of a hotel with five different conditions of product presentation. Results of this preliminary study will be used for the adjustment of the experiment websites.

Keywords—Human Image; Product Presentation; Fixation; Trust; Purchase Intention

I. INTRODUCTION

Although electronic commerce industry has been continuously growing, the electronic commerce users or consumers are still concerning about the quality of information displayed on websites. Moreover, an online shopping is not conducted by actual salespersons that provide recommendations or answer questions to customers. Product information on websites which sellers use for communication with buyers is mostly in text and image formats [7]. Buyers usually consider this information carefully before making purchase [1, 16], particularly for service businesses. One of the most important factors of service business is communication which provides information to support customer decision process.

The survey results by Electronic Transaction Development Agency (ETDA), Thailand (2014), indicated that 46.9% of Thai people use Internet for buying and selling

products/services. 37.3% of them use Internet to reserve or buy online tickets. Moreover, Thai people still prefer conducting online transactions via web applications over mobile applications.

To create the electronic commerce environment that will make buyers feel like they are shopping in real physical shops, Riegelsberger et al. (2001, 2003) have suggested that representatives or something which performs some kinds of socialization should be inserted in the website design, such as additional chat box, photos, videos, messages or speech. This concept is consistent with research by Steinbruck et al. (2002) which confirmed that the insertion of representatives or social signs would increase customer's reliance. Especially, when customers see human photos, they would feel warmth, and this concept creates atmosphere similarly to face-to-face human interaction.

Website owners usually chose human image with positive facial expression to induce good attitude of customers toward their products, because these images create a warm and friendly environment. Moreover, positive attitude toward online environment can lead to trust between sellers and buyers, and finally lead to purchase intention and online purchase behaviors [12]. Also, Nielsen and Pernice (2009) suggested that image selection for websites should be applied by considering consistency of images and website content.

Aside from the issue of unreliable information on websites, Schenkman and Jonsson (2000) reported that buyers quit from webpage because of uninteresting content. Cyr et al. (2009) found in their research that when human images were used, the samples felt more attracted to the websites. Conversely, website without human image led to unattractive feeling toward website contents.

Hotel business was selected for our research because Thai people prefer using website to reserve hotel rooms. So, the final study will be conducted by using human images in hotel presentation on electronic commerce website in five conditions; (1) a female presenter with positive facial expression, (2) a female presenter with neutral facial

expression, (3) a male presenter with positive facial expression, (4) a male presenter with neutral facial expression, and (5) hotel presentation without a presenter, which may affect (1) trust, (2) fixation, and (3) purchase intention. Moreover, another moderator variable that will be used in the final study is buyer's gender because different genders may lead to differences in perception and purchase intention.

II. RESEARCH OBJECTIVES

The research has three main objectives as follow:

- 1) To study effect of using human images in product presentation on electronic commerce website on (1) trust, (2) fixation and (3) purchase intention. The five conditions of websites are (1) a female presenter with positive facial expression, (2) a female presenter with neutral facial expression, (3) a male presenter with positive facial expression, (4) a male presenter with neutral facial expression, and (5) product presentation without a presenter.
- 2) To study effect of using human images in product presentation on electronic commerce website on (1) trust, (2) fixation and (3) purchase intention when buyers are males or females.
- 3) To study relationships between trust and fixation that may affect purchase intention.

III. RESEARCH METHODOLOGY

A. Research Tools

There will be three research tools in this research.

- 1) Five new websites have to be developed to be used in the experiment. These websites are hotel reservation service. The five conditions of using human presenter in hotel reservation websites as mentioned earlier are presented in Table I.
- 2) A self-report questionnaire will be used as fundamental data collection tool. The questionnaire is divided into 3 sections.

Section 1: Questions about respondent's general information such as gender and experiences of purchasing products via the Internet.

Section 2: Questions for respondents to evaluate their trust. The questions are modified from the study by Kobayashi and Okada (2013) on website trust.

Section 3: Questions for respondents to evaluate their purchase intention. The questions are modified from the study by Torchareon (2012).

- 3) The eye tracking device will be employed to measure

fixation duration by collecting the eye-gaze data of each respondent when he/she looks in the specific area or area of interest (AOI) of the website.

B. Procedure

The study will be conducted in these following steps:

- 1) The researcher develops five websites as mentioned earlier.
- 2) The preliminary study will be conducted to test whether the developed websites are suitable for the study or not.
- 3) The experiment websites will be adjusted according to the preliminary study results.
- 4) The researcher divides volunteer participants into 10 groups (5 website conditions x 2 buyer genders), 30 participants for each group.
- 5) The researcher makes appointments with participants for data collection in the research unit, one participant for a time slot.
- 6) The researcher describes procedures of data collection to each participant.
- 7) When the participant is ready, the researcher starts calibration process.
- 8) The researcher starts Mirametrix S2 Eye Tracker to collect eye-gaze data.
- 9) The researcher asks each participant to access the assigned website and perform some work as specified on the document.
- 10) After participant finishes working with the website, he/she will close the website and the researcher stops recording eye-gaze data.
- 11) The researcher asks the participants to fill in the questionnaire.

TABLE I WEBSITE CONDITIONS

Website Conditions	Using Human Images in Product Presentation				
	Image with Positive Facial Expression		Image with Neutral Facial Expression		Product Presentation without Human Image
	Female	Male	Female	Male	
A	●				
B			●		
C		●			
D				●	
E					●

C. Participants and Samples

From the statistical survey of Internet usage in Thailand by Electronic Transaction Development Agency (ETDA) (2013; 2014), we found that Thai people who bought from Internet were people in their 20-35 years old. So, Thai people in their 20-35 years old will be our population of the study.

The samples for the experiment of this research will be bachelor or master degree students from Chulalongkorn Business School, Chulalongkorn University, Thailand. They are Internet users and in their 20-35 years old.

The samples of the research will be divided into 10 groups (5 website conditions x 2 buyer genders), 30 persons for each group. So, total samples will be 300 persons.

D. Preliminary Study

In order to develop five suitable websites for this study, a preliminary study was conducted. First, five conditions of hotel reservation websites were developed, as shown in Figure 1 – Figure 5.

- 1) Website A – a female presenter with positive facial expression
- 2) Website B – a female presenter with neutral facial expression
- 3) Website C – a male presenter with positive facial expression
- 4) Website D – a male presenter with neutral facial expression
- 5) Website E – product presentation without a presenter

After the five websites were developed, we started our preliminary study with 104 participants. Five websites were shown to each participant. After that, we asked each participant to fill in a questionnaire. The questionnaire included personal questions in the first part, and questions about websites in the second part. Each participant was asked to choose the most attractive website, the most reliable website and to evaluate facial expression of presenters in website A – website D.

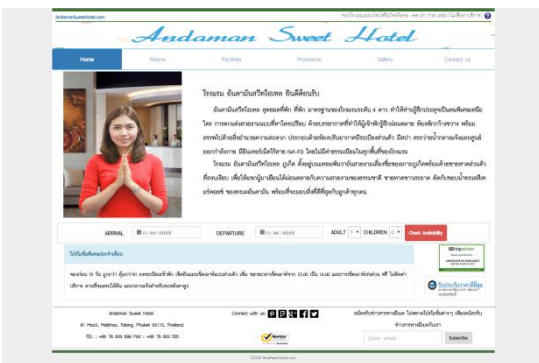


Fig. 1 Website A

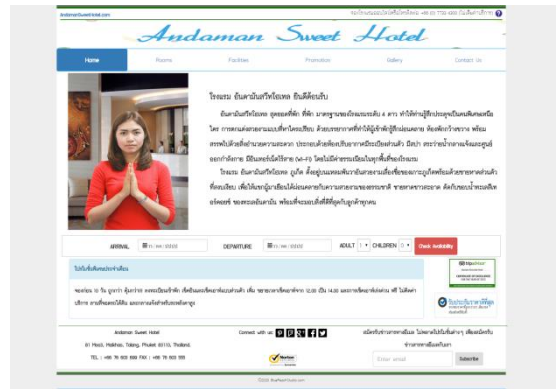


Fig. 2 Website B

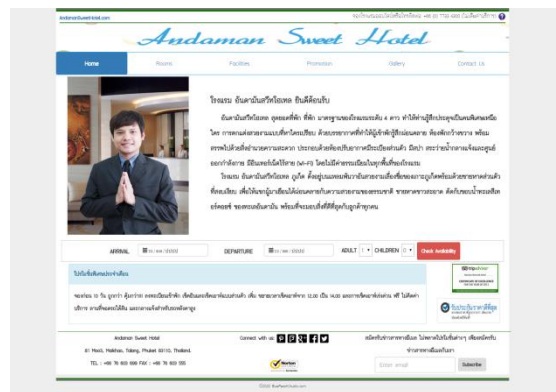


Fig. 3 Website C



Fig. 4 Website D

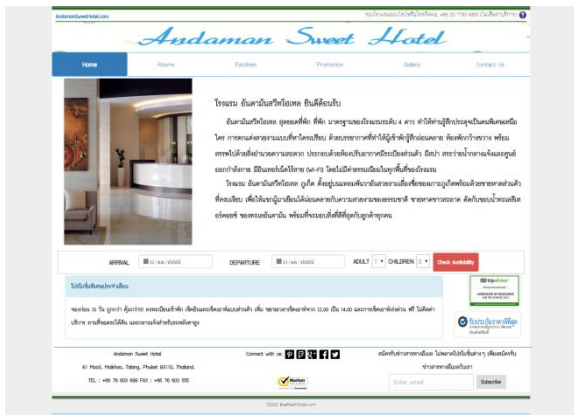


Fig. 5 Website E

There are 62 males and 42 females, participated in our preliminary study. The results of this preliminary study are presented in Figure 6 – Figure 11.

Figure 6 indicates that 55.8 % of respondents think that website A – a female presenter with positive facial expression is the most attractive website, followed by website C – a male presenter with positive facial expression (17.3%).

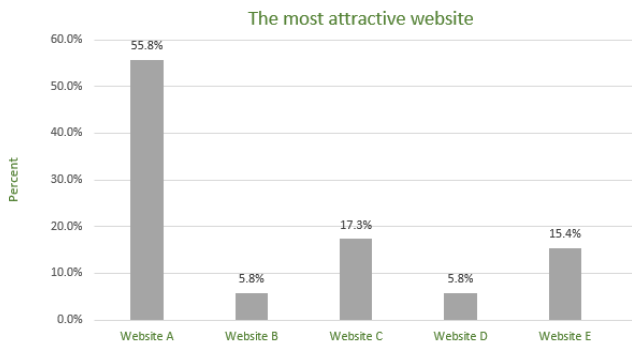


Fig. 6 The most attractive website

Figure 7 indicates that 46.2 % of respondents think that website A – a female presenter with positive facial expression is also the most reliable website, and again followed by website C – a male presenter with positive facial expression (25.0%).

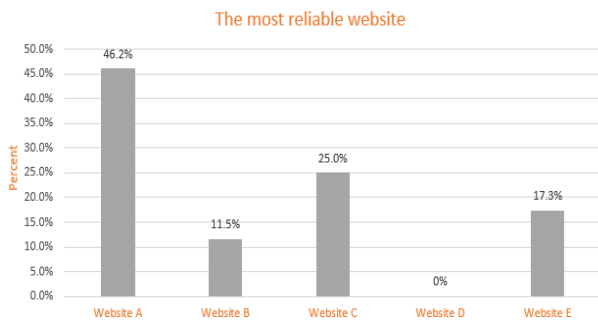


Fig. 7 The most reliable website

Figure 8 indicates that a female presenter in website A really expresses positive facial expression (98.1%). So, website A is suitable to use in the next step of our study.

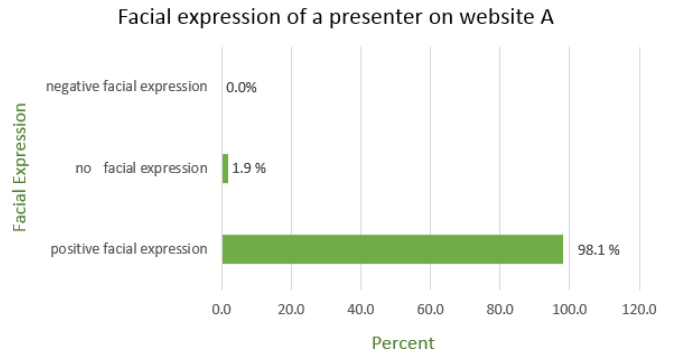


Fig. 8 Facial expression of a female presenter on website A

Figure 9 indicates that some participants think that a female presenter in website B expresses negative facial expression (32.7%), instead of neutral facial expression. So, website B should be adjusted and re-tested before being used in the next step of our study.

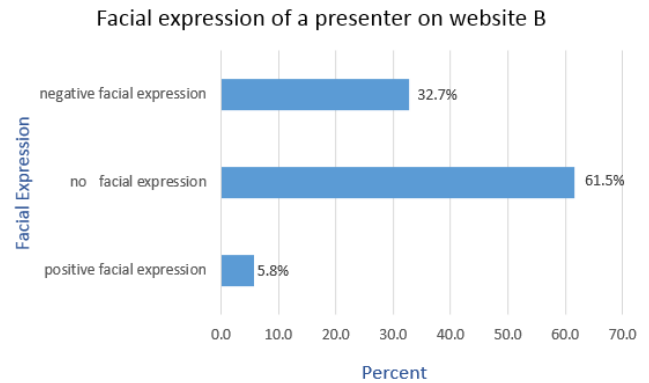


Fig. 9 Facial expression of a female presenter on website B

Figure 10 indicates that a male presenter in website C really expresses positive facial expression (98.1%). So, website C is suitable to use in the next step of our study.

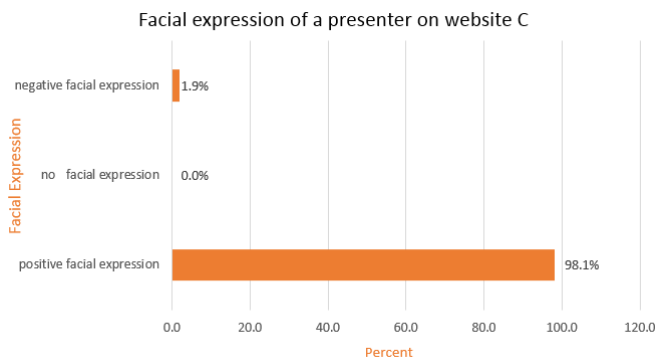


Fig. 10 Facial expression of a male presenter on website C

Figure 11 indicates that some participants think that a male presenter in website D expresses negative facial expression (44.2%), instead of neutral facial expression. So, website D should be adjusted and retested before being used in the next step of our study.

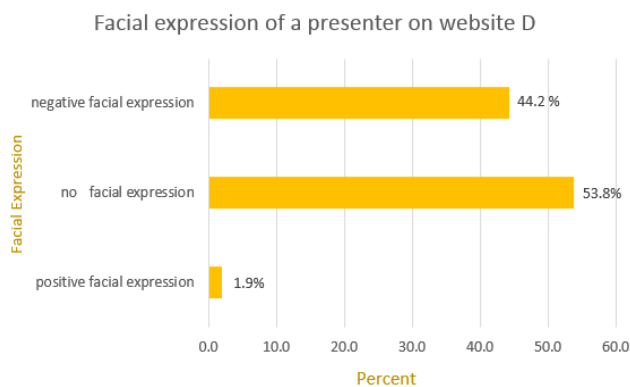


Fig. 11 Facial expression of a male presenter on website D

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