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# **EFFECT OF USING HUMAN IMAGES IN PRODUCT PRESENTATION OF E-COMMERCE WEBSITE ON TRUST, FIXATION AND PURCHASE INTENTION**

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## **ABSTRACT**

The objective of this study is to conduct an investigation on the five conditions of product presentations which are (1) a female presenter with positive facial expression, (2) a female presenter without facial expression, (3) a male presenter with positive facial expression, (4) a male presenter without facial expression, and (5) product presentation without a presenter. The factors of interest include (1) trust, (2) fixation, (3) purchase intention, and also (4) gender of buyers. This study uses data collected from experiments conducted in Chulalongkorn Business School research unit. The instruments used in the experiments 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 duration. Analysis results from data collected from 150 samples indicate that there is significant effect of using human presenter toward trust, especially when respondents are females. However, there are no significant differences of purchase intention and no significant differences of fixation duration for each of the five conditions of product presentation.

*Keywords:* Human Image, Product Presentation, Fixation, Trust, Purchase Intention

## **INTRODUCTION**

Electronic commerce industry has been continuously growing. However, the electronic commerce users or consumers are still concerning about the quality of information displayed on websites. Besides, an online shopping is not conducted by actual salespersons that provide recommendations or answer questions to customers. Product information on websites which internet vendors use for communication with buyers is mostly in text and image format [7]. Buyers usually consider this information carefully before making purchase decisions [1] [5] [13], particularly for purchase decisions in service businesses. The most important factor of service business is communication which provides information to support customer decision process.

The survey results by Electronic Transaction Development Agency (ETDA), Thailand (2014) [3], indicate that 46.9% of Thai people use Internet for buying and selling product/service. 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. [9] [10] have suggested that representatives or something which performs some kinds of socialization should be inserted in the website design. Examples of these socialization features include additional chat box, photos, videos, messages or speech. This concept about socialization is consistent with research by Steinbruck et al. [14] which confirmed that the insertion of representatives or social signs would increase customer's reliance. Especially, when customers see human photos, they will feel warmth, and this concept creates atmosphere similarly to face-to-face human interaction.

Usually, website owners chose human images with positive facial expression to induce good attitude of customers toward their products, because these images create a warm and friendly environment. Furthermore, positive attitude toward online environment can lead to trust between sellers and buyers, and finally, lead to purchase intention and real online purchase behaviors [11]. Also, Nielsen and Pernice [8] 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 [12] reported that buyers quit from webpages because of uninteresting content of those webpages. Cyr et al. [2] 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.

In our research, hotel business was selected because Thai people prefer using website to reserve hotel rooms. So, the study was conducted using human images of hotel presentation on electronic commerce website in five conditions; (1) a female presenter with positive facial expression, (2) a female presenter without facial expression, (3) a male presenter with positive facial expression, (4) a male presenter without facial expression, and (5) hotel presentation without a presenter, which affect (1) trust, (2) fixation, and (3) purchase intention. Moreover, another moderator variable used is gender of buyers because different genders may lead to differences perception of each of the five website conditions, and purchase intention.

## **RESEARCH OBJECTIVES**

This 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 website are (1) a female presenter with positive facial expression, (2) a female

presenter without facial expression, (3) a male presenter with positive facial expression, (4) a male presenter without 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 purchase intention, as well as fixation duration and purchase intention.

## RESEARCH MODEL AND HYPOTHESIS

### Research Model

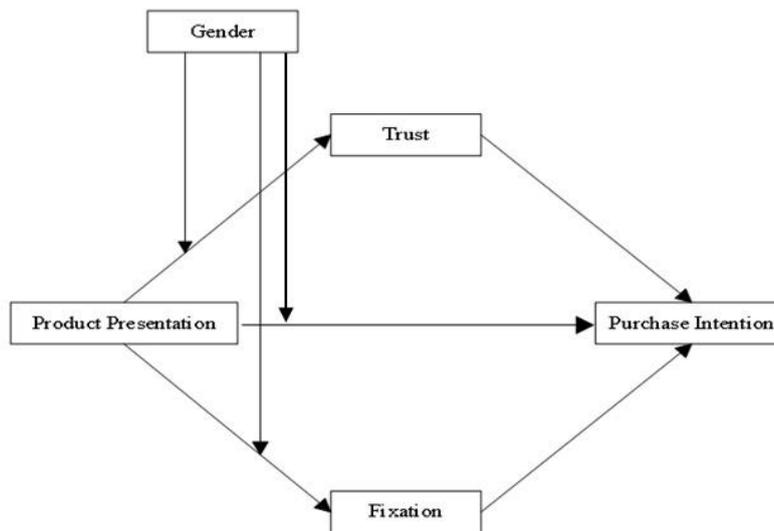


Figure 1 – Research Model

### Hypothesis

H1: Using human images in product presentation on the website will have effect on trust.

H2: Using human images in product presentation on the website will have effect on trust, when buyers' gender is male.

H3: Using human images in product presentation on the website will have effect on trust, when buyers' gender is female.

H4: Using human images in product presentation on the website will have effect on fixation duration.

H5: Using human images in product presentation on the website will have effect on fixation duration, when buyers' gender is male.

H6: Using human images in product presentation on the website will have effect on fixation duration, when buyers' gender is female.

H7: Using human images in product presentation on the website will have effect on purchase intention.

H8: Using human images in product presentation on the website will have effect on purchase intention, when buyers' gender is male.

H9: Using human images in product presentation on the website will have effect on purchase intention, when buyers' gender is female.

H10: There is relationship between fixation duration and purchase intention.

H11: There is relationship between Trust and purchase intention.

## RESEARCH METHODOLOGY

### Research Instrument Development

There are three research tools in this research.

1. Five new websites were developed to be used in this experiment. These websites are hotel booking service. The five conditions of using human presenter in hotel booking website as mentioned earlier are presented in Table 1.

Table 1 – Website Conditions

Website condition	Using Human Images in Product Presentation				product presentation without a presenter
	a presenter with positive facial expression		a presenter with neutral facial expression		
	Female	Male	Female	Male	
	A	•			
B			•		
C		•			
D				•	
E					•

In order to develop five suitable websites for this study, we conducted a preliminary study. There were 108 samples, 39 males and 69 females, participated in our preliminary study. We used the results of the preliminary study to adjust our original websites to make sure that users will really perceive the right facial expression of each websites. The adjusted websites are presented in Figure 2 – Figure 6.

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



Figure 2 – Website A



Figure 3 – Website B



Figure 4 – Website C



Figure 5 – Website D

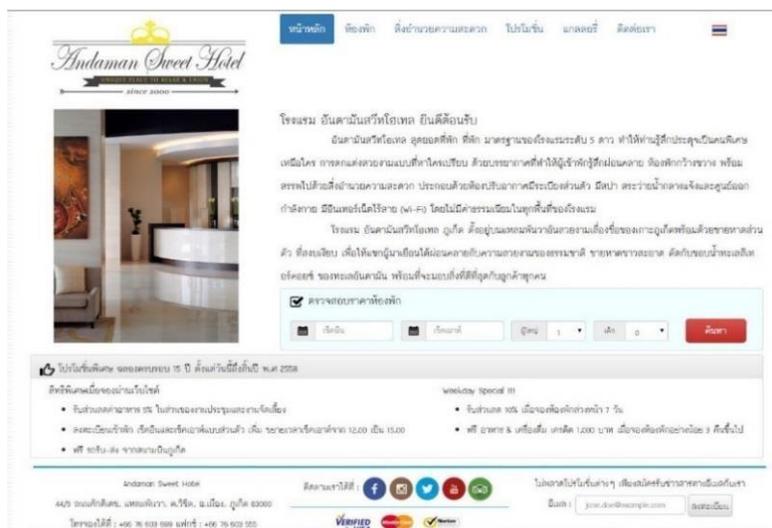


Figure 6 – Website E

2. A self-report questionnaire was used as fundamental data collection tool. The questionnaire is divided into 3 sections. As shown in Table 2.

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

Section 2: Questions for respondents to evaluate their trust which were modified from the study by Kobayashi and Okada [6] on website trust, as presented in Table 2.

Section 3: Questions for respondents to evaluate their purchase intention which were modified from the study by Torchareon [15], as presented in Table 2.

Table 2 – Question for Trust and Purchase Intention

Variables	Dimension	Items	Question
TRUST	Website	T-01	You think that the website, www.AndamanSweetHotel.com will not disclose your personal information to others without your permission.
		T-02	You think that the website, www.AndamanSweetHotel.com, provide sufficient information as you expect
		T-03	You think that the website, www.AndamanSweetHotel.com, provide all information necessary for hotel booking.
		T-04	Overall, you think that the website, www.AndamanSweetHotel.com, is reliable and trustworthy.
	Hotel	T-05	You think that Andaman Sweet Hotel can provide services as their advertised commitments.
		T-06	You think that Andaman Sweet Hotel can provide services in line with your requirements.
		T-07	You are confident that Andaman Sweet Hotel is reliable, trustworthy, and sincere to provide services.
PURCHASE INTENTION	Website	PI-01	You tend to book rooms via the website, www.AndamanSweetHotel.com.
		PI-02	If you want to book a hotel room in Phuket, you tend to choose a room booking via the website, www.AndamanSweetHotel.com.
		PI-03	You tend to recommend the website, www.AndamanSweetHotel.com, to your friends or acquaintance.

PURCHASE INTENTION	Hotel	PI-04	If there is an opportunity, you tend to book Andaman Sweet Hotel's rooms in the future.
		PI-05	If you want to book hotel rooms in Phuket, you may book Andaman Sweet Hotel's rooms.
		PI-06	You tend to recommend Andaman Sweet Hotel to your friends or acquaintance.

- The eye tracking device was employed to measure fixation duration by collecting the eye-gaze data of each respondent in the specific area or area of interest (AOI). As shown is figure 7. We tracked user eye movements on the webpages during the experiment. We used the eye tracking data to calculate fixation duration on the main images of home page in the study. We used fixation duration because it is one of the reliable indicators to measure user's attention.



Figure 7 – Area of interest (AOI) on website

**Measurement**

Measurement for trust was modified from [6] and those for purchase intention modified from [15] using a five-point Likert scale with “1 = strongly disagree” to “5 = strongly agree”. Cronbach’s Alpha was used to assess the reliabilities of the research variables. The Cronbach’s alpha values for the measures were 0.829 and 0.913 for trust and purchase intention consecutively, as shown in Table 3.

Table 3, Variables, items of measurement, mean score value, std. deviation, and Cronbach’s Alpha.

Variables	Dimension	Items	Mean	S.D.	Cronbach’s Alpha
TRUST	Website	T-01	3.513	0.817	0.829
		T-02	3.580	0.805	
		T-03	3.707	0.863	
		T-04	3.607	0.793	
	Hotel	T-05	3.647	0.795	
		T-06	3.620	0.662	
		T-07	3.587	0.753	
PURCHASE INTENTION	Website	PI-01	3.013	0.927	0.913
		PI-02	3.047	0.985	
		PI-03	2.893	0.991	
	Hotel	PI-04	3.173	0.961	
		PI-05	3.353	0.906	
		PI-06	3.080	0.973	

## DATA ANALYSIS AND HYPOTHESIS TESTING RESULTS

### Data Collection

From the statistical survey of Internet usage in Thailand by Electronic Transaction Development Agency (ETDA) [3] [4], we found that Thai people who buy from Internet are people in their 20-35 years old. So, Thai people in their 20-35 years old are our population for this study. The samples which we select for the experiment are bachelor or master degree students from Chulalongkorn Business School, Chulalongkorn University, Thailand. They are Internet users and in their 20-35 years old. We divide samples into 10 groups (5 website conditions x 2 buyer genders).

### Descriptive Statistics

The data were collected from 150 respondents who are Internet users and in their 20-35 years old, as mentioned earlier. Most of respondents have internet experience 5-7 years. Especially, 88% of them have online shopping experiences. A summary of demographic information of those 150 respondents is shown in Table 4.

Table – 4 Summary of respondents' demographic

Characteristic		Frequency	Percentage
Gender	Male	62	41.3
	Female	88	58.7
Internet Usage Experience	Less than 3 years	6	4.0
	3 - 5 years	15	10.0
	5 - 7 years	67	44.7
	More than 7 years	62	41.3
times purchase	Never	18	12.0
	1 - 5 times	84	56.0
	6 - 10 times	25	16.7
	More than 10 times	23	15.3
Service	Never	18	5.1
	Booking flight	82	23.2
	Booking hotel room	62	17.5
	Internet banking	56	15.8
	Internet streaming media (such as, iflix, HollywoodHD, PrimeTime)	26	7.3
	Booking movie tickets	55	15.5
	Food delivery	48	13.6
	Other	7	2.0

### Hypotheses Testing

*Result of using of human pictures to present products on the website towards trust.*

Table – 5 Mean score value of trust for each product presentation conditions, and Anova test result

Conditions of using human presenter in hotel booking website	Mean Score	Sig.
A female presenter with positive facial expression	3.42	0.03
A female presenter with neutral facial expression	3.46	
A male presenter with positive facial expression	3.74	
A male presenter with neutral facial expression	3.73	
Product presentation without a presenter	3.73	

Anova test result, as shown in Table 5, indicates that using different human presenters in hotel booking website associates with significantly different trust, at the significance level of 0.05.

**Result of using of human pictures to present products on the website towards trust, when respondents' genders are different**

Table – 6 Mean score value of trust for each product presentation conditions, and Anova test result, with buyer's gender

Conditions of using human presenter in hotel booking website	Male buyers	Female buyers
A female presenter with positive facial expression	3.60	3.26
A female presenter with neutral facial expression	3.44	3.48
A male presenter with positive facial expression	3.78	3.71
A male presenter with neutral facial expression	3.62	3.78
Product presentation without a presenter	3.81	3.66
	Sig.	0.36
		0.05

Anova test results, as shown in Table 6, indicate that using different human presenters in hotel booking website associates with significantly different trust, at the significance level of 0.05, when buyers are female. However, the same association is not true when buyers are male.

**Result of using of human pictures to present products on the website towards purchase intention.**

Table – 7 Mean score value of purchase intention for each product presentation conditions, and Anova test result

Conditions of using human presenter in hotel booking website	Mean Score	Sig.
A female presenter with positive facial expression	3.04	
A female presenter with neutral facial expression	3.02	
A male presenter with positive facial expression	3.12	0.94
A male presenter with neutral facial expression	3.16	
Product presentation without a presenter	3.14	

Anova test result, as shown in Table 7, indicates that there is no significant difference of purchase intention between five conditions of product presentation, at the significance level of 0.05.

**Result of using of human pictures to present products on the website towards purchase intention, when respondents' genders are different**

Table – 8 Mean score value of purchase intention for each product presentation conditions, and Anova test result, with buyer's gender

Conditions of using human presenter in hotel booking website	Male	Female
A female presenter with positive facial expression	3.23	2.88
A female presenter with neutral facial expression	2.98	3.05
A male presenter with positive facial expression	2.93	3.23
A male presenter with neutral facial expression	2.85	3.33
product presentation without a presenter	3.37	2.94
	Sig.	0.51
		0.36

Anova test result, as shown in Table 8, indicates that there is no significant difference of purchase intention between five conditions of product presentation, at the significance level of 0.05, for both male and female buyers.

**Result of using of human pictures to present products on the website towards fixation duration.**

Table – 9 Kruskal-Wallis H Test Sig. value of fixation duration

Fixation Duration	
Chi-Square	3.574
df	4
Asymp. Sig.	0.467

Table – 10 Mean rank value of fixation duration for each product presentation conditions with Kruskal-Wallis H Test

Fixation Duration	
Conditions of using human presenter in hotel booking website	Mean Rank
A female presenter with positive facial expression	80.50
A female presenter with neutral facial expression	82.41
A male presenter with positive facial expression	78.34
A male presenter with neutral facial expression	72.22
Product presentation without a presenter	64.10
	Sig. NO

Form Table 9 and Table 10, we can conclude that there is no significant difference of fixation duration between five conditions of product presentation, at the significance level of 0.05.

Table – 11 Number of samples, mean score value, Std. deviation, minimum and maximum of fixation duration

Fixation Duration						
Conditions of using human presenter in hotel booking website	N	Mean	S.D.	Minimum	Maximum	
A female presenter with positive facial expression	31	7.25	4.72	1.97	21.57	
A female presenter with neutral facial expression	32	7.26	4.19	1.70	20.80	
A male presenter with positive facial expression	25	6.77	3.95	2.02	14.90	
A male presenter with neutral facial expression	32	6.70	5.25	0.34	21.03	
Product presentation without a presenter	30	5.50	3.63	0.78	13.24	
Total	150	6.70	4.40	0.34	21.57	

**Result of using of human pictures to present products on the website towards fixation duration, when respondents' genders are different**

Table – 12 Kruskal-Wallis H Test Sig. value of fixation duration

	Male	Female
Chi-Square	5.741	1.956
df	4	4
Asymp. Sig.	0.219	0.744

Table – 13 Mean rank value of fixation duration for each product presentation conditions with Kruskal-Wallis H Test, with buyer's gender

Conditions of using human presenter in hotel booking website	Mean Rank	
	Male	Female
A female presenter with positive facial expression	36.79	43.62
A female presenter with neutral facial expression	35.36	47.06
A male presenter with positive facial expression	27.11	50.66
A male presenter with neutral facial expression	34.27	39.67
Product presentation without a presenter	23.00	42.75
	Sig.	NO NO

Form Table 12 and Table 13, we can conclude that there is no significant difference of fixation duration between five conditions of product presentation, at the significance level of 0.05, for both male and female buyers.

Table – 14 Mean value of fixation duration for each product presentation conditions, when buyers are males or females

Fixation Duration Mean Value		
Conditions of using human presenter in hotel booking website	Male	Female
a female presenter with positive facial expression	7.77	6.81
a female presenter with neutral facial expression	7.13	7.35
a male presenter with positive facial expression	5.62	7.41
a male presenter with neutral facial expression	8.45	5.79
product presentation without a presenter	5.04	5.91
Total	6.82	6.62

From Table 14, we found that when respondents were males, using a male presenter with neutral facial expression in product presentation gave the longest fixation duration (8.45 second). Moreover, for respondents were females, using a male presenter with positive facial expression in product presentation gave the longest fixation duration (7.41 second).

#### **Result Correlation between trust and purchase intention**

Table – 15 Correlation analysis between trust and purchase intention

		Trust
	Pearson Correlation	.551**
Purchase Intention	Sig. (2-tailed)	.000
	N	150

The result of correlation analysis, displayed in Table 15, indicates significant positive correlations between trust and purchase intention.

#### **Result Correlation between fixation and purchase intention**

Table – 16 Correlation analysis between fixation duration and purchase intention

		Fixation duration
	Pearson Correlation	-.145
Purchase Intention	Sig. (2-tailed)	.078
	N	150

The result of correlation analysis, displayed in Table 16, indicates no significant correlations between fixation duration and purchase intention.

### **CONCLUSION**

Using human in product presentation of e-commerce website depends on many factors, in this study, we consider five factors such as facial expression, genders of the presenter, buyer's fixation, trust, and purchase intention. The study results indicate significant effect of using human presenter toward trust, especially when respondents are females. However, there are no significant differences of purchase intention and no significant differences of fixation duration for each of the five conditions of product presentation.

However, we found that a male presenter with neutral facial expression in product presentation was more attractive to male respondents, and a male presenter with positive facial expression in product presentation was more attractive to female respondents. Results of this study can be used as a guideline for hotel website owners to choose a suitable human image in product presentation of e-commerce website for their website.

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