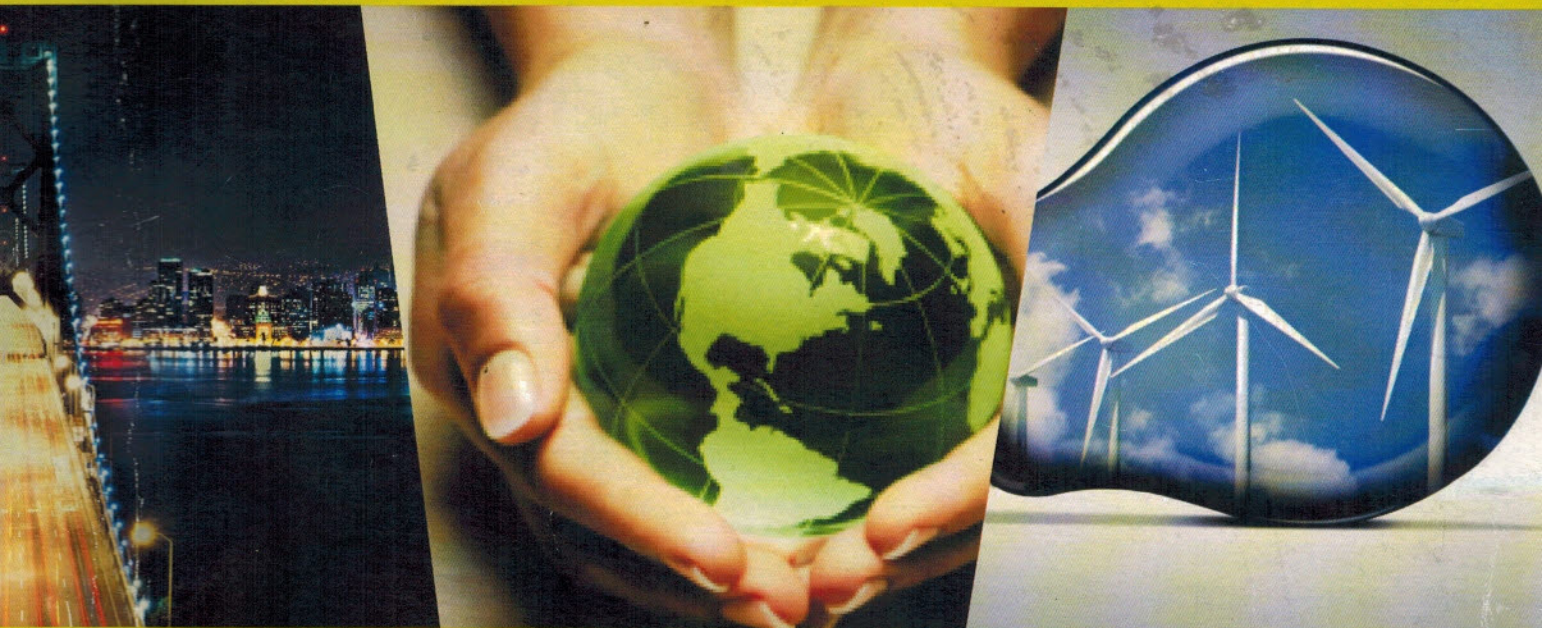




**PROCEEDING
OF INTERNATIONAL CONFERENCE
ON GREEN WORLD
IN BUSINESS AND TECHNOLOGY**

3rd



*“Intellectual Property Right Based on
Green Social Dynamics, Business and Science-Tech”*

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*"Intellectual Property Right Based on Green Social Dynamics,
Business and Science-TechIntellectual Property Right Based on
Green Social Dynamics, Business and Science-Tech"*

Author and Speaker

Assoc. Prof. Dr. Zulkifli Mohamed Udin

Assoc. Prof. Pharkphoom Panichayupa- karanant, Ph.D

Anwarudin Hisyam, M.Sc., Ph.D.

Armin A. Fullante, Ph.D.

Reviewer

Dr. Abdul Fadlil, M.T.

Anton Yudhana, S.T., M.T., Ph.D.

Dr. Rusydi Umar, M.T.

Dr. Hj. Dwi Suhartanti, M.Si.

Drs. Aris Thobirin, M.Si.

Publisher

Ahmad Dahlan University

Jln. Kapas No. 9 Semaki, Yogyakarta 55166

Tel. 0274-563515, Fax. 0274-564604

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The Development of User Experience Website Design Using Kansei Engineering by Flat and Adaptive Technology Towards Clothing Store to Increase the Simplicity and the Comfort of

Afriq Yasin Ramadhan¹, Fiftin Noviyanto²

^{1,2}Informatics Engineering Study Program
Kampus III Jl. Prof. Dr. Soepomo, Janturan, Warungboto, Yogyakarta.
University of Ahmad Dahlan

¹Email : fiftin.noviyanto@tif.uad.ac.id

Abstract. User experience has many influences to the application or web based service because it relates with the user's need. So far, there are so many web based applications which have bad user experience even fail in user experience. If the user experience from web based application is bad, automatically the need of user will not complete and it makes the users feel uncomfortable and also choose to leave the website and visit another website.

The objective of this research is to give the user's easy and comfortable in using clothing store website. The subject of this research is clothing store website, using data collection methods such as observation, experiment, literature study and survey. The stages of application development include system needed analysis, system design, system development and testing. The technology being used are flat and adaptive design and system testing using pretest posttest and paired t test.

The result of the research done by the researcher is user experience website design using flat and adaptive technology. Based on the test, there are significant differences in the increasing of comfortable and the simplicity given by user experience which has been developed based on the result of paired t test with the value $p = 0.001 < 0.05$. User experience website design in store and marketplace design which has been developed has influenced to the user's easy and comfortable, good looking, readable, informative, and can be accessed in all devices.

Keywords: clothing store, flat and adaptive design, kansei engineering, user experience.

1 Introduction

User experience influences a lot to the application or web based service because it connects with the need of user [6]. This far, there are still many web based application which have bad user experience. Even they failed in user experience [5][18]. If the user experience by web based application is bad, the need of the user won't complete automatically and it makes the users feel uncomfortable and choose to leave the website and visit another website [2]. Whereas more than 80 % the marketing depends on the website [12]. If it happens, so the chance to get the market will be gone automatically, getting bad images as the product or low quality not use the product or the service, and the business process of the service compared with another competitors, and the importance to make good user experience from the product especially on product and web based service. Increasing the simplicity and the comfort of user is the objective of this user experience development. If the user experience from clothing store is good,

therefore it will fulfill the need of user so it will increase the income of the company [18].

Kansei Engineering is a method which shows someone's subjective impression towards surrounding caught by five senses [14]. This Kansei Engineering has a purpose to develop or repair the product and service by translating psychology feeling and customers' needed to the product design.

Flat design is a design which erases many complicated textures, pattern, shadow, bubble, gradient, and shining effect to focus on simplicity and content therefore it will make the website to be light [8][13][10]. Adaptive design is a design ability which can adapt with the layer where the design is opened [7]. So, website will be compatible when accessed in many devices either PC, Netbook, Tablet Computer or Smartphone so it will increase the selling of the product because on 2013 many customers change into mobile device to make online transactions *online* [4][3][16].

Indonesian society is very consumptive and pleased to do shopping. Based on the statistic data on 2013, on online shopping activity, the highest rank or the most popular item which is bought by Indonesian society are clothes with the percentage 67,1% [17]. Therefrom, this user experience development is focused on clothing store website.

Based on the background of the study, so there will be conducted: "The development of User Experience Website Design Using kansei Engineering by Flat and Adaptive Technology towards Clothing Store to Increase The simplicity and The comfort of The Users"

2 Literature Review

The research refers to the previous research which is done by Anitawati Mohd Lokman entitled "*Applying Kansei Engineering to Determine Emotional Signature of Online Clothing Website*". The research done by Anitawati Mohd Lokman produces how to assess clothing website based on the feeling or someone's emotion using kansei engineering. That research is still in the early stage since it's only about clothing website analysis. To prove whether kansei engineering can be valid to determine the emotional values of web design in clothing store or not. In her research, Aniwati shows how to use kansei engineering to identify emotional assignment from website and provides empiric findings in using kansei as the means to combine the affective traction or emotional website [11].

2.1 Kansei Engineering

Kansei is a feeling/impressions which is undergone by someone towards the result of environment creation or certain situation by using all the five senses [14]. The process of product design which calculates "feeling" or this human affective can give many selling benefits [9].

2.2 Human and Computer Interaction

Human and computer interaction is a knowledge discipline which relates with the design, evaluation, and implementation of interactive computer system used by human [1]. The objective of human and computer interaction is to produce usable and safe system. It means that the system can work well. The system can be used to develop and increase safety, utility, usability, effectiveness and efficiency.

3 Research Method

3.1 The Subject of Research

The subject which will be discussed in this final assignment is a clothing store website, where later, user experience website design will be developed using kansei engineering method which the purpose is to increase the comfort of the users. The technology used is flat and adaptive design where the user experience development focusses on the user to give the simplicity of shopping in the clothing store website using anything devices.

3.2 Method of Data Collection

There are 4 method of data collections which is conducted in the research. They are:

3.2.1 Observation

This method is done by doing observation towards the behavior, and the habitual of online purchase and sale doer when they make a purchase and sale transaction on clothing store website especially in Yogyakarta.

3.2.2 Experiment

This method is done by trying some clothing store website which has resemble system with clothing store website which will be made. This case has a purpose to know the inadequacy and learn the cases which are developed by those services [15].

3.2.3 Literature Review

This method is conducted by reading literature such as book, short paper, journal, and article which is relevant with this research topic like User Experience, Website Design, E-commerce, and Kansai Engineering.

3.2.4 Survey

This method is done by making list of questions and spread them to get important data which relate with this research topic.

3.3 System Analysis

The activity in this stage is analyzing the requirement to develop user experience design on clothing store website. In the requirement analysis, there are some activities which are done. The first is literature review, in the second activity there will be done an experiment from store and marketplace website which is already existed to know the business process, and then doing an approach or emphatic research to get information about what do the people think when they are faced with the product.

3.3.1 The Design of the System

The activity which is done to develop user experience in this stage is the design of flowchart and user interface design.

3.3.2 Testing System

There are two testing systems which will be used in this research. They are pretest posttest and t-test.

4 Results and Discussions

The previous Interface design is made using fireworks and CorelDraw whose the result in the figure 1:

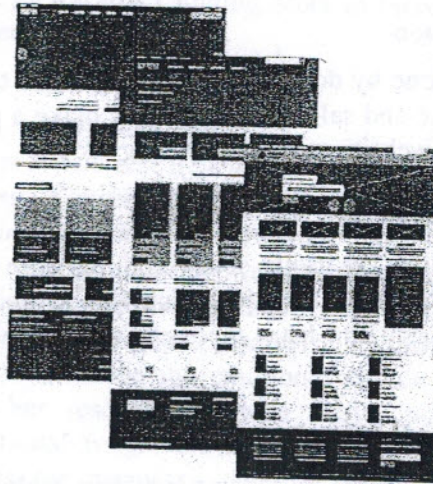


Figure 1 Mockup Clothing Store Website

The next step after the design is the development of user experience using twitter bootstrap css framework. The result of user experience development can be seen in the figure 2.

The Development of User Experience Website Design



Figure 2 User Experience Clothing Store Website

After we make user experience website design in clothing store website, the next step is analyzing and validating user experience using kansei engineering type I. The first way is we spread the list of questions to more than 10 persons to test the validity and reliability from 15 pairs of kansei word which have been arranged using SPSS 16. The result of this testing can be got the simplification of kansei word to be only 7 pairs.

	Sangat Suka	Suka	Netral	Suka	Sangat Suka	
	1	2	3	4	5	
Membosankan (unattractive)						Menarik (attractive)
Tidak nikmat (not enjoyable)						Nikmat (enjoyable)
Tidak multifungsi (unusable)						Multifungsi (usable)
Tidak Nyaman (uncomfortable)						Nyaman (Comfortable)
Tidak Menyenangkan (unpleasant)						Menyenangkan (pleasant)
Lelah (tired)						Segar (fresh)
Jelek (ugly)						indah (beautiful)

Figure 3 pairs of Kansei Word

After we get 7 pairs kansei word, the next step is we spread the list of questions again to analyze the reliability and validity from that user experience. The way is asking 60 participant persons to fill the list of questions toward 3 user experience which have been made. The subject of this research is 21 female participants and 39 male participants with the range of age about 20 – 28 years old. To test the validity, we use critical factor testing where the data will be valid if the Pearson correlation is bigger than critical r that is 0.3. If the instrument point which the r correlation is less than 0.3 so it is believed to fail or invalid. If the value of cronbach's alpha is more than 0.70 so it is very reliable, however if the value of cronbach's alpha is less than 0.70 however the value isn't negative so it can be said that it is reliable, but if the value of cronbach's alpha is negative, it may simply that the result isn't reliable. From the analyzing and testing which is done, we got the result below:

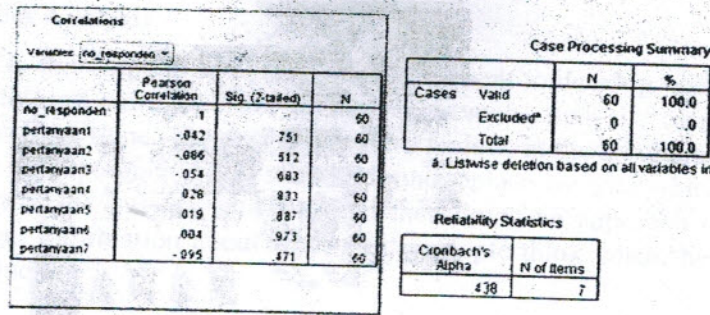


Figure 4 The result of validity and reliability testing in the first user experience

From the figure 4, it can be seen that the value Sig. (2-tailed) for each questions in the first user experience is bigger than 0.3, so we can conclude that all the questions items are stated invalid, whereas the value of cronbach's alpha is 0.438 so the user experience which is tested is reliable.

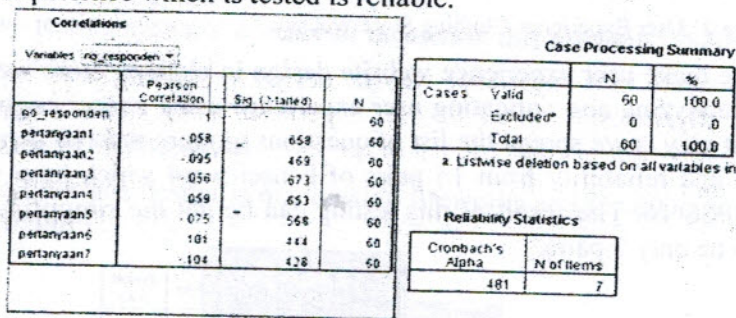


Figure 5 The result of validity and reliability testing in the second user experience

From the figure 5 it can be seen that the value of Sig. (2-tailed) for each questions in the first user experience is bigger than 0.3, so it can be concluded that all the question items are stated valid, whereas the value of cronbach's alpha is 0.481 so the user experience which is tested is reliable.

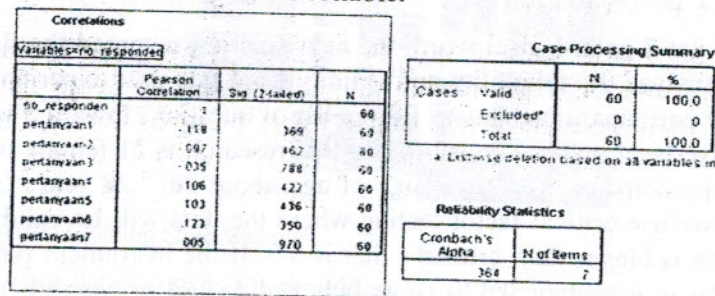


Figure 6 The Result of Validity and Reliability testing in the third user experience

From figure 5 it can be seen that the value of Sig. (2-tailed) for each questions in the first user experience is bigger than 0.3, so it can concluded that all question items are stated valid, whereas the cronbach's alpha is 0.364 so the user experience which is tested proven to be reliable.

5 Conclusions and Suggestions

5.1 Conclusions

Based on the result of the research and findings, so we can conclude the following items:

1. From the research is produced a user experience website design by flat and adaptive technology design in clothing store website.
2. Based on the testing using t test paired which is done by comparing two samples which is obtained based on 4 evaluation points given to know the comfort and the simplicity of user experience those are eye-catching, readable, informative, layout, and adaptive we got the value of t count = -9.242 and the value of p = 0.000 or it can be written 0.001 which is smaller than 0.05, therefore H_0 is denied. So we can conclude that there are significant differences toward the comfort and the simplicity of user experience which is developed using kansei engineering.

5.2 Suggestions

The suggestions which are delivered from this research are as follows:

1. The user experience development by kansei engineering furthermore can be developed not only covered clothing store website.
2. The user experience development by kansei engineering furthermore can be developed by integrating smart system which can convert automatically based on the certain input.

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