*ANALYSIS OF THE FUNCIONALITY OF THE INFORMATION SYSTEM SERVICE TO CUSTOMERS (*SIPEJABAT*) USING OF KANSEI ENGINEERING METHOD (*BALAI BESAR BAHAN DAN BARANG TEKNIK(B4T)BANDUNG)

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ABSTRACT

Balai Besaar Bahan and Barang Teknik (B4T) is a company engaged in the field of certification of goods and material testing techniques, the company has a system to B4T customers called SIPEJABAT. SIPEJABAT a system of services for customers in B4T, SIPEJABAT helps customers see product testing information. This research is backgrounded on there are still not many service of SIPEJABAT service especially for customer. Some of them that customer faced are when they want to see testing process the ingridients, there just a few that customer can see. Like the information of order, name, date of the products that will be finished. The existence of information meets the needs of the customers against the system at this time, the company had difficult with the presence of customers who always ask for calibration testing information via email and phone.

Because of that this research is conduct on SIPEJABAT system information. One of the method that can be used for knowing the functional needs that customer needed is using kansei engineering method that can help knowing needs from SIPEJABAT functional.

The result that get from this research is functional needs that customer wanted in SIPEJABAT system, like there will be information of detail testing ingredients. Start from information of testing products until payment status informations, using Kansei Engineering method.

Keywords: Sipejabat, Kansei Engineering, Functioanlity, B4T.

1. INTRODUCTION

Balai besar barang dan bahan teknik (B4T) is a government under the research and education of indonesian industry , of big hall goods and materials engineering established the first time in 1909 in batavia (now jakarta) by the dutch indies by the name of a laboratory voor metaal onderzoek under burgelizke openbake warken (now the public works department) B4t has the main task and functions as the implementation of the marketing , an increase in competence of industry and utilization of information technology .B4t do research , development , design , planning , goods technique , do certification quality system , and certification products goods technique in for industry engineering and goods technique .Sipejabat is a system that used in b4t to managing data customers , to ease customers know to the extent which the process products of the and goods who is in test by b4t to its products , so customers know when time is finished products of the and goods to be in take it with see information system that has been in prepared by b4t There are still many deprived of functionality sipejabat system .There are a few flaws faced by customers at this point is , at the time want to see the process of testing products of the and goods , only some information alone can look at , as information date reservations , product name , date products will be finished tested , upon the obtained there are a few flaws felt by of customer sipejabat system that is they did not the provision of information status testing if there is the cancellation of through a system , the absence of no laboratory tests , confirmation payment .

1.1 Research Methods

Research methodology used is the method research survey , where a method of surveying used to obtain information in the form of opinion of a number of persons , where information which has been obtained will be gathered , the information collected through the submission of questions , and information obtained from sample .Research methodology aimed to make the process research conducted can run well and structured . The Research method can be seen in the picture.

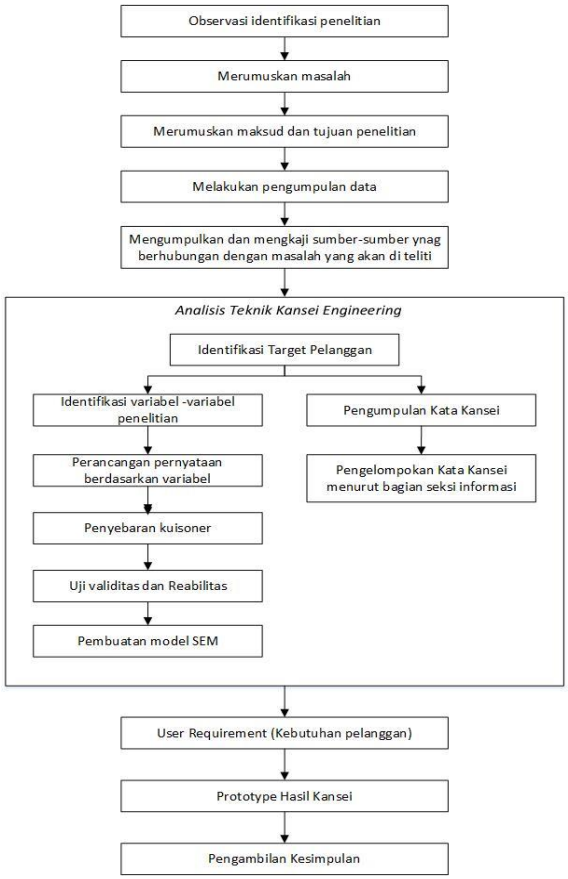


Image 1 Research Methods

1.2 Method Of Analysis Kansei Engineering

User acceptance analysis method that will be used as follows:

1. Identification Customers

This stage done is to identify customers that will be used for the source of penelitan namely customers which often does testing products of the and goods technique

2. Identification variables research

This stage is the formation of questions based on variables been previously decided , that will be used to know functionality system needs to customers

3. The spread of kuisoner

At this stage there was a dissemination of kuisoner where kuisoner designed as a means to collect the data from respondents required in penlitian, consisting of the indicators already described in early stages such as determine identification variable, indicators appointed as parameter for every variable become the foundation questions at kuisoner in created

4. validity

At this stage will test the validity of and reabilitas , to know kuisoner in and spread the word that can be in and i understand it or not by the subscribers

5. Making SEM Model

This stage is making model shem , to know the links between variable with each other.

6. Collection Of Words Kansei

This stage will collection was done said kasnei in do by customers via the results of interviews, in asked is such needs as what is needed customers to system that they were going to spend later on.

7. Grouping words Kansei

This stage that is after collection said kansei words by.customers in do election those words to the section of information for in select back to fit the needs customers

8. User Requirment

The result of that has been in do based on kuisoner and the collection of said kansei words , namely needs anything is in want by pelaggan against the system sipejabat

9.Prototype Kansei

This stage that is making the prototype of the results of the analysis kansei that has been in do , the prototype is a description of systems that required by customers to in the future

1.3 *Structural Equation Model* (SEM)

SEM is a multivariate statistical technique which is a combination of factor analysis and regression analysis (correlation) that aims to examine the relationships between variables that exist in a model, be it an indicator of the konstruknya, or relationships between constructs. , There are several main stages to be traversed to use SEM in a research activity.

1. Creating a Model SEM (Model Specification)

At this stage, a model "on the basis of a particular theory" was made, either in the form of a mathematical equation or in the form of a diagram. Diagram will enter measurenment models and structural models.

2. Prepare the study design and data collection

Once the model is created, before the model was tested, will be tested assumptions should be met in the SEM, the treatment of missing data (if the data is quite a lot), collect data, and so on.

3. Identification Model (Model Identification)

Once a model is created and the design has been determined, the test model of identification, whether the model can be analyzed further. Calculation large degree of freedom becomes an important part in this stage.

4. Test Model (Model Testing and Estimation Model)

Once the model is created and can be identified, followed by a test phase measurenment structural models and then test the models. Measurenment of testing the model, will be obtained relationship between the indicator with konstruknya. If measurenment model can be considered valid, the test continued on structural models to obtain a correlation which shows the relationship between

the constructs. Included in this activity is the possibility respesicification models in a model of SEM [6].

1.4 A model of technology

Technology Acceptance Model (TAM) is an adaptation of the TRA introduced by Fred Davis in 1986. Where TAM is devoted to explaining the behavior of the users computer (Computer usage behavior). TAM theory schematically described as follows:

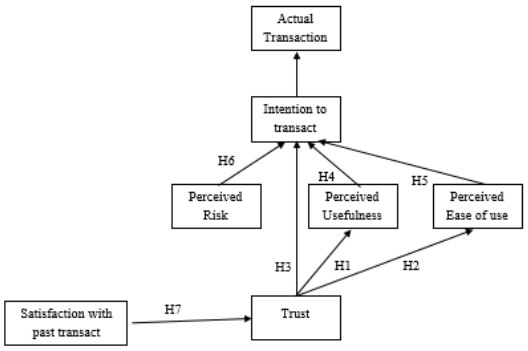


Image 2. Variabels Research

Where variables will be tested the actual transaction, to transact intention, perceived risk, perceived ease of use, perceived usefulness, reputation, and satisfaction with past transaction, .model it can be seen in image 2

2. CONTENTS OF RESEARCH

2.1 Research Variabels

The model used in this research was technology acceptence a model (tam who have been introduced by pavlou in research has been conducted by ali , cacilia and ricky

2.2 Analysis variable research

The analysis of revenue model users must be paid attention to determine the links between every variable . As seen on table 1.1

Satisfication with past transaction	Pleasure in taste customers in use the the information system to sipejabat
a. Effective	
b. Update	
c. Efisien	
d. Trust	
e. Clarity	
Perceived Usefulness	Belief of customers in using a information system will ease in search of all information required in sipejabat
a. Trust	
b. Easy	
c. Complete	
Perceived Ease Of Use	Ease at using the technology information system for customers , and no need of a long time in the use of information technology in sipejabat
a. easy to learn	
b. Easy	
c. clarity	
d. Increase Skill	
e. Detail Information	
Perceived Risk	Worry that perceived user when will use technology sipejabat
a. Payment risk	
b. Economy risk	
c. Customers risk	
Intention to transact	Decision customers to use information systems and conducting a materials and goods technique back to sipejabat
a. needs	
b. transaction	
c. Use	

2.3 Questionnaires of Customers

In accordance with sample selection using formulas maximum likehold (ml) located in shem , so kuisioner in spread to 120 respondents .Kuisioner composed of 50 questions by using scale likert .The spread of kuisioner done online or offline .From spreading kuisioner done there are 105 data valid and 40 data invalid .The number of distributing and collection kuisioner and in the answer kuisioner in of sports can be seen in the table below.

Uraian	Keterangan
Kuisoner deployed	120
kuisioner accrued	105
kuisioner unallocated	15
kuisioner mingled	105

2.4 Testing the Feasibility Model

Testing stage feasibility this model consisting of two stage testing , namely testing measurenment model and structural model .To test the validity of its measurenment model , testing gof be held to find out how fit model with lab data obtained .Next picture is

the path diagram which is produced after do stage the fulfillment of test the assumption shem.

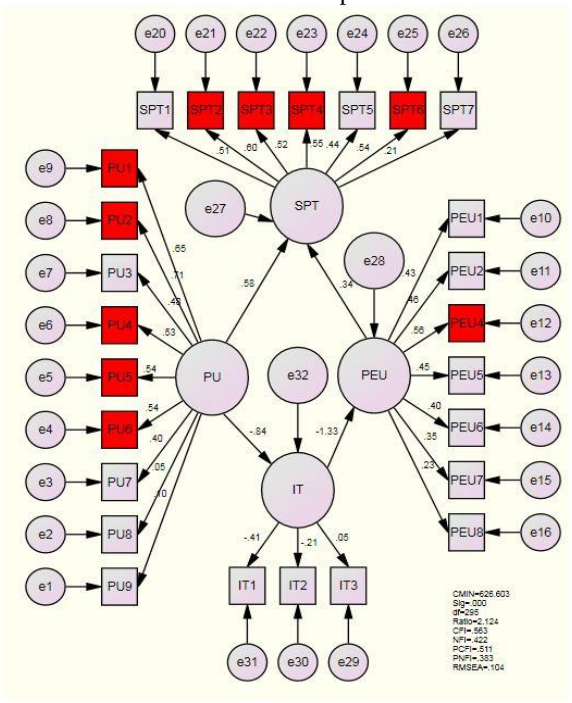


Image 4. Output Path Early Model Diagram

Based on output path the diagram, made a summary the results of testing gof that can be seen in the table below

GOF size	Acceptance limits	Values in Model research	information
Chi-square (x^2)	The smaller the more fit	626	
p-value	≥ 0.05	0.000	Poorly
GFI	≥ 0.90	0.669	Poorly
AGFI	≥ 0.90	0.606	Poorly
RMSEA	≤ 0.05 : fit; > 0.10 : tak fit	0.104	Poorly
ECVI	Model ECVI lower than *saturated model* and *Independence model*	Model : 7.102 *Saturated* : 6.750 *Independence* : 10.916	Poorly

Based on the results of the gof model in over, concluded that models are not fit with the data research.The removal of indicators that have factor loading & lt; 0.50 can be done to make the outcome testing gof for the better.A picture the results of output in box red showing that the pu1 indicators, pu2, pu4, pu5, pu6, spt2, spt3, spt4 and spt6 having the value factor loading & gt; 0.50 to be used to modification model next.Because variable perceived ease of use only have an indicator that have factor loading & lt; 0.50 recorded in dahlan, analysis shem in amos at least has two indicators, then in the statement variable perceived ease of use not in remove.While variable intention to risk have no factors loding & lt; 0.50 variable intention to risk in remove

The following are the results of the analysis modification modeled after remove some items where the value of indicators of loading &; 0.50 it can be in see from figure below.

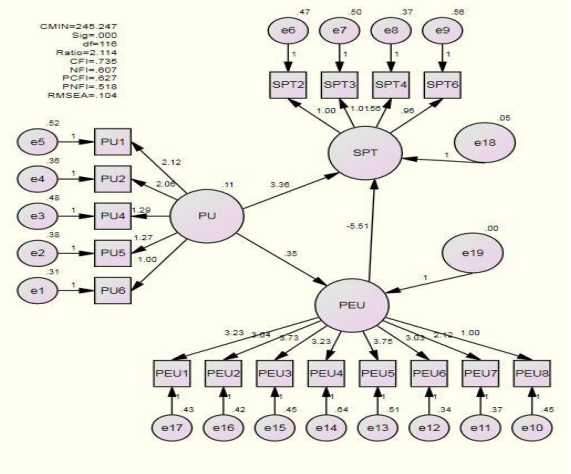


Image 5. Output Path Diagram Modified

Based on the results of goodness-of-fit model the last one of get that the results of the is weak well even though changed in every value as the chi-square, p-value, gfi, agfi, rmsea, ecvi, because in every value not meet, of prescribed standards

GOF size	Acceptance limits	Value at the beginning of the research model	Value in the research model after modification	information
Chi-square (x^2)	Semakin kecil, semakin fit	626	245	poorly

p-value	≥ 0.05	0.000	0.000	I
GFI	≥ 0.90	0.669	0.781	I
AGFI	≥ 0.90	0.606	0.711	Margin
RMSEA	≤ 0.08	0.104	0.104	I
ECVI	Model ECVI lower than *saturated model* and *Independence model*	Model : 7.102 *Saturated* : 6.750 *Independence* : 10.916	Model : 3.070 *Staturated*: 2.942 *Independence*: 6.324	I

2.5 Analysis Variabel Testing

After criteria goodness-of-fit model structural destination could be met, so the next stage is the analysis on relations structural a model (the testing of hypotheses).To take one the relationship between konstruk in hypothesis in show by non-oil regression weights, value regression weights can be seen in table 4.6 a hypothesis in say significant when value p value & lt; 0.05

			P
Perceived Ease Of Use	<---	Perceived Usefulness	,105
Satisfication With_Past Transaction	<---	Perceived Usefulness	,209
Satisfication With_Past Transaction	<---	Perceived Ease Of Use	,479

1 Relationship Perceived Ease Of Use against the perceived usefulness

Relations perceived ease of use against perceived usefulness the results of the analysis model structural show there are an insignificant relations between perceived ease of use with perceived usefulness because the value of p value 0.105 > 0.05

2 Relationship Satisfication With_Past Transaction against Perceived Usefulness

The results of the analysis of structural model indicates there is a significant relationship between Satisfication With_Past Transaction with perceived usefulness because the value of the p value 0209 > 0.05.

3 Relationship Satisfication With_Past Transaction to the Perceived Ease Of Use

The results of the analysis of structural model indicates there is a significant relationship between the Perceived Ease Of Use with Satisfication With Past Transaction because the value of the p value 0479 > 0.05

3. CONCLUSIONS AND SUGGESTIONS

3.1 Conclusions

Based on the results of the research that has been done during this final project, it can be concluded that:

1. Consistent with the objectives of research analysis needs functionality sipejabat has been done and the result of research get 11 needs that need by customers in look at the process testing , which then in create as the prototype sitstem to come

2. The result of analysis variable that has been in do, each variable there was no connection so significant impact on every indicator question that had in do, and each variable having penelian different

3.2 Suggestions

From the process of the test which has been carried out so far , still there is a shortage of or wrong done during the process of the visit .For it , there are some of the suggestions we can do for correct an error from the study, namely:

1. The use of variables to the assessment of a system of functionally is expected to not only look at their needs from customers , but can be seen in terms of system sipejabat developer
2. To research later for analissi system functionality can add external factors as attitude, quality and others.
3. To the method kansei engineering alone must be able to output products in accordance with the methods used , and determines the dependent variable a far better than before.

4. BIBLIOGRAPHY

[1] Dachlan, Usman. 2014. *Panduan Lengkap Structural Equation Modeling*. Semarang: Lentera Ilmu.

[2] Ayu, Sila.Ilmi. 2014. “Pengumpulan Data, Populasi Dan Sampel”.

[3] Djaelani, Rofiq.Aunu. 2013. “Teknik Pengumpulan Data Dalam Penelitian”.

[4] Kadir, Abdul. dan Alter. 1992. *Pengenalan Sistem Informasi*. Yogyakarta: Andi

Yogyakarta.
[5] Kadir, Abdul. dan Bodnar, Hapwood. 1993. *Pengenalan Sistem Informasi*.
Yogyakarta: Andi Yogyakarta.
[6] Kadir, Abdul. Gelinas, Oram. dan Wiggins. 1990. *Pengenalan Sistem Informasi*.
Yogyakarta: Andi Yogyakarta.
[7] Kadir, Abdul. 2002. *Pengenalan Sistem Informasi*. Yogyakarta: Andi Yogyakarta.
[8] Muthahhari, Muwahid. 2014. "Perancangan Dan Strategi Pemasaran Produk Balzer
Dengan *Metode Kansei Engineering* Pada UKM Ababil".
[9] Nagamachi, Mitsuo. Lokman Mohd. dan Anitawati. 2011. *Innovation Of Kansei*
Engineering. Tokyo: Taylor and Francis Group, LLC.
[10] Santoso, Singgih. 2014. *Konsep Dasar Aplikasi SEM*. Jakarta: Kompas Gramedia.
[11] Chandra, Sushil. dan Atreya Sudhir. 2011. *The Semantics Of Motorcycle Design: A*
Kansei Engineering Framework.
[12] Pavlou, Paul A. 2003. Consumer Acceptance of Electronic Commerce:Integrating
Trust and Risk With The Technology Model.

[13] Johar, Md. Gapar Md. dan Awalludin Ahmad Akmar Janatul. 2011. The Role Of
Technology Acceptance Model In Explaining Effect On E-Commerce Application
System.
[14] Sugiyono. 2014. *Metode Penelitian Kombinasi* (*Mixed Methods*). Bandung: Alfabet
[15] Archam, Dini Latifa. Setyanto, Widha Nasir. dan Rahman Arif. 2013. "Integrasi
Kansei Engineering dan Structural Equation Modeling (SEM) Untuk Meningkatkan
Kualitas Produk Shampo".
[16] Setyaningrum, Ratih. Dharma, Budi Bagus I.G. dan Ahimsa-Putra, Shri Heddy.
.2014. "Kata-Kata Kansei Pada Produk Berbasis Budaya Untuk Pemenuhan
Maslow". *Jurnal Teknos*, 1(22):1-102.
[17] W, Srikandi Margareth, Runtuk, K.Johan. dan H.Sari Permata Lusia. 2012. "Rekayasa
Desain Batik Tulis Jetis SIdoarjo Melalui Implementasi Metode Kansei Engineering".
Jurnal GEMA AKTUALITA, 1(12):1.
[18] Risqi, Ovita Riza, Ushada, Mirwan. dan Supartono, Wahyu. 2015. "Analisis Pengaruh
Kepuasan Kerja Terhadap Kinerja Karyawan Dengan Pendekatan Kansei Engineering
Perusahaan XYZ". *Agritech*, 1(2):35Elex Media Komputindo, 2007.