USABILITY ANALYSIS ON THE DAILY EVALUATION SYSTEM APPLICATION WITH POTENTIAL GAIN CUSTOMER VALUE METHOD AND CUSTOMER SATISFACTION INDEX METHOD

[1,2,3] Electrical Engineering Study Program, Faculty of Engineering, Udayana University

Correponding email [1] : gusalit@unud.ac.id

Ida Bagus Alit Swamardika [1], Made Sudarma[2], Made Dinda Pradnya Pramita[3]

Abstract. The advantage use of information technology is not only limited to individuals, but also organizations, especially government organizations. In 2003 the Indonesian government issued Presidential Instruction No. 3/2003 concerning national policies and strategies for e-government development. Based on this, a usability analysis is performed on the Daily Evaluation System (DES) application with the Customer Satisfaction Index (CSI) method and the Potential Gain Customer Value (PGCV) method. The User Centered Design (UCD) is used as an indicator of the questionnaire and the results are analyzed using the CSI and PGCV methods. The results of CSI analysis of the satisfaction level showed the value of 70.95% for female respondents, while it is 70.84% for male respondents. The value of the level of satisfaction is equal to 67.42% for respondents aged 20-30 years, 72.07% for respondents aged 31-40 years, and 73.87% for respondents aged 41-60 years. The level of satisfaction for respondents in structural positions is 72.65% while for respondents in functional positions is 69.73%. Based on the ten UCD indicators, the highest percentage of satisfaction is the consistency indicator which is 77.82% and the lowest is the assistance and documentation indicator which is 63.00%. Based on the results of the PGCV analysis, it is showed that 11 attributes are needed to be the priority for improvement.

Keywords : usability, daily evaluation system application, customer satisfaction index , potensial gain customer value, user centered design.

1. INTRODUCTION

The rapid development of technology brings many changes in organizational activities, especially in government organizations. Based on Presidential Instruction No. 3 of 2003 about national policies and strategies for e-government development, the development refers to the use of communication and information technology, including the use of websites, which are expected to increase efficiency, cost effectiveness and government transparency.

The National Civil Service Agency (BKN) as a non-ministerial government agency which in charge of the civil servant personnel management has begun implementing e-government development in accordance with Presidential Instruction No. 3 of 2003. The implementation of e-government in the National Civil Service Agency is the use of the Daily Evaluation System (DES) application. DES is used in organizing the annual Employee Work Goals (SKP), measuring employee's daily performance and measuring employee's performance achievements every year.

The Directorate of Performance of the National Civil Apparatus as the manager of the DES application recorded the number of civil servants who had registered in the database as many as 2719 people. Along with the developments of technology and the increasing of user needs, improvements will be made to the application. Thus, it is necessary to conduct a usability analysis as a basis or guide in the process of the application improvement.

Usability analysis is carried out through an application testing by involving end users. Several studies

related to usability analysis have been conducted, among others; The research focuses on customer satisfaction with the use of quality assurance information systems by applying three indicators in the questionnaire, namely Task Complete Rate, Time On Task and Usability Rate of System [1]. Another study focuses on design indicators and the highest value of saverity rating on the aspects of user flexibility and efficiency [2]. Research on the Information System Usability Analysis conducted in Karanganyar Regency Website using Heuristic Evaluation [3]. This study focuses on the Heuristic Evaluation method in determining indicators and the data collected using a questionnaire method from 112 respondents while the quality scale is measured using the ratting method. The results of this study indicate that there needs to be an improvement in the system, on the aspects of flexibility and efficiency of use and the esthetic and minimalist design which has a large enough percentage value of dissatisfaction. In addition to these studies, usability analysis research obtained a result that showed the quality of the Pro Denpasar website in terms of good quality of the webqual and servqual [4]. Based on some of these studies, this research carry out the usability analysis in the Daily Evaluation System application using indicators in the User Centered Design method, which then the data from questionnaire are analyzes using the Customer Satisfaction Index and Potential Gain Customer Value methods.

2. METHODS

The method used in the data analysis process are the Customer Satisfaction Index (CSI) method and the Potential Gain Customer Value (PGCV) method. The CSI method is used to determine the level of user satisfaction with the DES application, while the PGCV method is used to analyze attributes that need to be a top priority for improvement. The data is collect by questionnaire technique. The questionnaires were distributed online and offline to the Central BKN, 14 Regional Offices and 16 UPT. The number of respondents is determined using the Slovin method, giving the number of involved respondents needed as many as 100 people. Based on the data of the questionnaires that have been filled in by the respondents, two tabulation tables were formed, namely the performance level tabulation table and the importance level tabulation table. The step continued by calculating the average value for performance and importance. This average value is used to determine the Achieve Customer Value (ACV) and the Ultimately Desired Customer Value (UDCV). The last step in the data analysis process is to determine the PGCV value based on the ACV and UDCV values. After the PGCV value is obtained, conclusions are drawn to determine which attributes will be the priority for improvement.

3. RESULTS AND DISCUSSION

3.1 The Analysis of the User Satisfaction Level by CSI Method

Assessment of the questionnaire conducted to 100 respondents consisting of 48 female respondents and 52 male respondents. The result showed that the satisfaction level of DES application usability for the female respondent group is 70.95% while for the male respondent group is 70.84%. These percentages mean that the DES application can still be categorized well and still feasible for use.

Based on the age category, 100 respondents consist of 36 respondents aged 20 - 30 years, 36 respondents aged 31 - 40 years and 28 respondents aged 40 - 60 years. CSI analysis of the respondent satisfaction level of DES application is obtained in terms of UCD usability. The result for the age group 20 - 30 years is 67.42%, 31-40 years age group is 72.07% and for the 40 - 60% age group is 73.87%. These percentages value indicate a good category and the DES application is still feasible for use.

Based on the occupational category, 40 respondents came from structural positions and 60 respondents came from functional positions. The results of the satisfaction level from the CSI analysis based on this category are 72.65% for structural positions and 69.73% for functional positions. These two percentages value indicate that the application is still in the good category and feasible for use.

The CSI analysis results based on each of the ten UCD indicators based on the assessment of 100 respondents showed that all indicators are still in good category. The three indicators with the highest percentage are consistency, ease of use and language use, while the three indicators with the lowest percentage are memorability, flexibility and documentation.

3.2 The Analysis Results by the Potential Gain Customer Value Method

Table 1 is the recapitulation of the Potential Gain Customer Value (PGCV) analysis results which is used to determine the attributes for the top priority improvement.

P value shows the average value of Performance level, while the I value shows the average Importance level. Based on the assessment made by 100 respondents, the average value of AGCV is 13.57 while the average value of UDCV is 19.29. The attributes that consider as the priority in improving the application are those that have the highest PGCV value, the smaller than the average AGCV value, and the greater than the average UDCV value. Based on the PGCV results in table 1, the sequence of improvement needed attributes and the improvement recommendations are as follows.

Table 1. Reseacrh Subjects Characteristic Summary

Attribute	P	I	ACV	UDCV	PGCV
23	3,09	3,86	11,93	19,30	7,37
27	3,16	3,90	12,32	19,50	7,18
22	3,21	3,86	12,39	19,30	6,91
12	3,24	3,86	12,51	19,30	6,79
26	3,25	3,88	12,61	19,40	6,79
9	3,32	3,85	12,78	19,25	6,47
13	3,36	3,87	13,00	19,35	6,35
17	3,41	3,92	13,37	19,60	6,23
21	3,42	3,87	13,24	19,35	6,11
14	3,44	3,86	13,28	19,30	6,02
30	3,41	3,73	12,72	18,65	5,93
16	3,50	3,86	13,51	19,30	5,79
11	3,57	4,01	14,32	20,05	5,73
4	3,56	3,97	14,13	19,85	5,72
32	3,27	3,29	10,76	16,45	5,69
20	3,56	3,94	14,03	19,70	5,67
15	3,57	3,95	14,10	19,75	5,65
6	3,60	4,01	14,44	20,05	5,61
5	3,56	3,88	13,81	19,40	5,59
10	3,60	3,99	14,36	19,95	5,59
18	3,56	3,85	13,71	19,25	5,54
19	3,62	3,98	14,41	19,90	5,49
2	3,63	3,93	14,27	19,65	5,38
24	3,58	3,79	13,57	18,95	5,38
25	3,58	3,79	13,57	18,95	5,38
8	3,61	3,86	13,93	19,30	5,37
1	3,67	4,03	14,79	20,15	5,36
3	3,68	3,96	14,57	19,80	5,23
33	3,57	3,65	13,03	18,25	5,22
35	3,57	3,57	12,74	17,85	5,11
34	3,56	3,47	12,35	17,35	5,00
7	3,77	3,97	14,97	19,85	4,88
31	3,78	3,90	14,74	19,50	4,76
29	3,80	3,92	14,90	19,60	4,70
28	3,98	4,00	15,92	20,00	4,08
Average			13.57	19.29	5.72

Table 2. Improvement Recommendations for DES Application

Attribute	P	I
23	DES provide an FAQ service to make it easier for users	There is an FAQ service in the DES application regarding common questions that users often ask
27	The user can easily return to the previous page with the 'back' button	There is a back button when adding daily SKP performance data
22	There is a manual book that makes it easy to operate DES	Adding a manual book to the DES application
12	The DES application has a URL address that is easy to remember	The DES application URL address should be changed to http://ekinerja-asn.bkn.go.id
26	New users can easily use the DES application	Adding SKP data processing flow In the manual book
9	Information on employee performance at DES can be trusted	Adding time feature in daily performance data input
		Assessment of each activity from the direct supervisor
		When inputting the monthly SKP category, the annual SKP is adjusted to the SKP target structure
13	The process on each DES menu is straightforward	The monthly SKP target in the following month can be withdrawn from the previous monthly SKP
		Time realization is calculated according to daily performance data
17	DES displays a notification when there is data input errors	A notification appears when there is a mismatch between the target and the realization
21	Displays a loading sign while the process is still carried out	Displays a loading sign when inputting daily SKP data
14	The process flow for using DES is easy to remember and understand	The daily SKP unit result data is adjusted automatically to the monthly target unit
		The process check box on daily performance data should be changed to a monthly and annual dropdown
16	DES provides personalization facilities for users	There is a roll back button to prevent switching to another account

4. CONCLUSION

Based on the analysis, the conclusions are as follows.

1. The value of the user satisfaction level of DES application is divided into four categories which are gender, age, occupational position and UCD indicators. The satisfaction level value for female gender is 70.95% while for male gender is 70.84%. The satisfaction level value for 20-30 years old group is 67.42%, for 31-40 years old group is 72.07% and for 41-60 years old group is 73.87%. The satisfaction level value for structural positions was 72.65% while for functional positions was 69.73%. All categories showed good scores. The highest percentage value of the satisfaction level based on the ten UCD indicators is the consistency indicator, which is 77.82%, and the lowest is the aid and documentation indicator, which is 63.00%.

2. Based on the results of the PGCV method analysis, there are 11 attributes that consider as the priority improvements. The improvements attribute in sequence is started from DES attribute providing FAQ services to make it easier for users, users can easily return to the previous page with the back button, there is a manual book that makes it easy in operating DES, the DES application has a URL address that is easy to remember, new users can easily use the DES application, employee performance information in DES can be trusted, the process on each DES menu is straightforward, DES displays notifications when inputting data errors, displays a loading sign while the process is being carried out, the DES usage process flow is easy to remember and understand and DES provides personalization facilities for users.

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