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Analysis of the Level of Satisfaction of Darwinbox Application Users at PT Nippon Indosari Corpindo Tbk Using the End User Computing Satisfaction (EUCS) Method

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ABSTRACT

The Darwinbox Personnel Information System is one of the developments in information technology in the staffing system that is utilized by PT Nippon Indosari Corpindo Tbk to assist the work of its employees in facilitating and assisting in carrying out attendance, applying for leave, changing personal money used for office purposes (reimbursement). The purpose of this study was to determine user satisfaction with the Darwinbox application at PT Nippon Indosari Corpindo Tbk and measurements were carried out using the End User Computing Satisfaction (EUCS) method. This research was conducted at PT Nippon Indosari Corpindo Tbk on 96 respondents. The results of the calculation of the T hypothesis test obtained the value of the Content variable (X1) sig. 0.000, Format (X3) value sig. 0.000, Ease Of Use (X4) sig. 0.000 where the sig. value of 0.05 can be concluded that the independent variable (X) has no partial effect on the dependent variable (Y). Simultaneously Content, Accuracy, Format, Ease Of Use and Timeliness have a significant effect on user satisfaction and have a very strong relationship with user satisfaction with a percentage value of 82.4%.

INTRODUCTION

The Darwinbox Personnel Information System is one of the developments in information technology in the staffing system that is utilized by PT Nippon Indosari Corpindo Tbk to assist the work of its employees in facilitating and assisting in making attendance, applying for leave, changing personal money used for office purposes (reimbursement), helping to selecting new employees, communicating with other plants, inputting overtime data, and assisting with inter-city service submissions.

The Darwinbox application was launched in 2021 and until now there has never been conducted a measurement of the satisfaction level of Darwinbox users among PT Nippon Indosari Corpindo Tbk employees. Based on the results of interviews with some of its users, the results show that the application has several drawbacks, namely the GPS location on the application system is still not very accurate and the schedule is experiencing problems with the proper timing. This is what underlies the need for research on user satisfaction with the Darwinbox application. Measuring the level of user satisfaction with an important information system is carried out with the aim of improving user experience, identifying user needs, improving system performance, and increasing user satisfaction.

There are various methods to measure the level of user satisfaction, one of which is to use the End User Computing Satisfaction (EUCS) method. EUCS is a method for measuring the level of user satisfaction that has been developed by Doll and Torkzadeh by assessing user experience during the use of the information system application to measure satisfaction with its use. EUCS evaluates system user satisfaction based on the use of the system (Sukumaran, 2015). The measure of the level of satisfaction measured using EUCS consists of 5 indicators namely Content, Accuracy, Format, Ease of Use, and Timelines (Doll & Torkzadeh, 1988) (Puspitasari et al., 2019).

There have been several previous studies that measured the level of user satisfaction using the EUCS method. The first study applied the EUCS method in measuring user satisfaction with web-based academic information systems (Purwanto & P. B., 2020)(Hidayah et al., 2020)(Saputri et al., 2022), the next study was an analysis of student satisfaction with e-learning (Cisca et al., 2021)(Putera & Candiasa, 2021)(Prasetya et al., 2020), and other research in the form of an analysis of the use of M-Banking (Syamsuar et al., 2022) and the Care Protect Application (Yudistira et al., 2022).

In this research, an analysis of user satisfaction will be carried out on employees of PT Nippon Indosari Corpindo Tbk on the Darwinbox application using the EUCS method. The results of this study are expected to be used as a basis for making application improvements.

LITERATURE REVIEW

There have been several previous studies regarding the use of the EUCS method to measure user satisfaction with the system used.

The first research is to analyze the satisfaction of users of the Majalengka Mobile Hospital Application using the End-User Computing Statistics Method. The RSM Mobile application makes it easy for users / patients to find the

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information they need. It is evident from the results of the questionnaire given to the respondents, where the level of user satisfaction of the RSM Mobile Application obtained a total score of 4368, this shows that the results of the study regarding Satisfaction of RSM Mobile Application Users at Majalengka Hospital according to respondents are in the high category (Abdurahman et al., 2020).

The next research is about the Analysis of User Satisfaction Levels of the UG In Your Hand Application with the End User Computing Satisfaction (EUCS) Method. The results of the study show that not all instruments affect user satisfaction with the UG In Your Hand system. Of all the instruments, there are only two instruments that show a significant effect on User Satisfaction (Y), namely Ease of Use (X4) and Timeliness (X5). While other instruments, namely Content (X1), Accuracy (X2) and Format (X3) show that there is no significant effect on User Satisfaction (Y) (Rahayu, 2020).

Another research is to analyze Simpus User Satisfaction Using the EUCS Method at the Banguntapan II Health Center. The results of the SIMPUS User Satisfaction Analysis Using the EUCS Method at the Banguntapan II Health Center showed that of the five EUCS variables, only 2 variables were effect on DGS system user satisfaction is the format variable with a T value of 2.504 and the timeliness variable with a T value of 2.265. This shows the appearance the DGS system's user interface is attractive and the DGS system's speed in providing user needs according to user expectations can affect user satisfaction in utilizing the DGS system at the Banguntapan II Health Center and it is hoped that it will be able to bring even more benefits to the Banguntapan II Health Center (Sevtiyani & Fatikasari, 2020).

There is also research on the analysis of User Satisfaction in the Jenius Application Using the EUCS (End User Computing Satisfaction) Method Based on the User's Perspective. Obtaining the calculation results from the processed survey data shows that the highest interval calculation is 4.58 while the lowest interval value is 3.80, which means that Jenius application user satisfaction is in the Very Satisfied category (Istianah & Yustanti, 2022).

METHOD

The object of this research was the Darwinbox application staffing system at PT Nippon Indosari Corpindo Tbk with respondents in the form of employees who access the staffing system application. The population used was 126 people obtained from the large number of employees at PT Nippon Indosari Corpindo Tbk and considering the error tolerance level of 5%.

The stages carried out in this research are:

1. Stages of planning, in this study the researcher looked for the formulation of the problem to be discussed and the limitations of the problem related to user satisfaction.
2. The data collection stage was carried out by the researcher by way of direct interviews with the head of the shift leader who is responsible in the field, then the researcher distributed questionnaires offline to users of the Darwinbox application at PT Nippon Indosari Corpindo Tbk.
3. The stage of distributing the questionnaire is to find out the level of user satisfaction with the Darwinbox application, proving that the research instrument made by the researcher is truly valid.
4. Next is the data processing stage, all data obtained from the field is processed by the researcher then analyzes user satisfaction based on the method used by the researcher namely EUCS with five independent variables content, accuracy, format, ease of use and timeliness, the dependent variable is user satisfaction.
5. Conclusion stage, at this stage the researcher draws conclusions from the research results and provides suggestions and recommendations for improvements to the Darwinbox application.

RESULT

This research used a population of 126 people with an error tolerance level of 5%. So the calculation of the number of samples used in this study is:

$$n = \frac{N}{1+Ne^2}$$
$$n = \frac{126}{1+126(0,05)^2}$$
$$n = \frac{126}{1+126(0,0025)}$$
$$n = \frac{126}{1+0,315}$$
$$n = \frac{126}{1,315} = 95,817$$
$$n = 96$$

From the calculation using the Slovin formula above, the sample to be used in this study is 96 samples. PT Nippon Indosari Corpindo Tbk has 12 types of employees spread across various divisions. The research sample that will be taken evenly across all employees with each existing position with the distribution of employees based on their position is shown in Table 1.

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E-ISSN : 2962-1658
Volume 2, Number 1, Jun 2023
https://doi.org/ 10.47709/ijmdsa.v2i1.2371

Table 1
Sample Distribution

No	Position	Calculation	Total
1	Officer Adm	16/126 x 100% = 12% 12/100 x 96 = 12	12 sample
2	Checker	3/126 x 100% = 2% 2/100 x 96 = 2	2 sample
3	Make up SB	10/126 x 100% = 7% 7/100 x 96 = 7	7 sample
4	Make up WB	11/126 x 100% = 8% 8/100 x 96 = 8	8 sample
5	Mixer	13/126 x 100% = 10% 10/100 x 96 = 10	10 sample
6	Oven SB	10/126 x 100% = 7% 7/100 x 96 = 7	7 sample
7	Oven WB	12/126 x 100% = 10% 10/100 x 96 = 7	10 sample
8	Pack Sandwich	13/126 x 100% = 10% 10/100 x 96 = 10	10 sample
9	Pack SB	7/126 x 100% = 6% 6/100 x 96 = 6	6 sample
10	Pack WB	11/126 x 100% = 8% 8/100 x 96 = 8	8 sample
11	Sortir	8/126 x 100% = 6% 6/100 x 96 = 6	6 sample
12	Scalling	12/126 x 100% = 10% 10/100 x 96 = 10	10 sample

Based on the questionnaires that the researchers collected, the following is a table of the distribution of answers from each respondent's answers to the questionnaire statement.

Table 2
Interpretation of Questionnaire Statement Results

No	Question	Alternative Answers			
		Strongly Disagree (SD)	**Moderately Disagree (MD)**	**Moderately Agree (MA)**	**Strongly Agree (SA)**
***Content* (X1)**					
1.1	Does the information available on the system match what you are looking for?	4,2	5,2	57,3	33,3
1.2	Is the content of system information complete, clear and easy to understand?	2,1	7,3	54,2	36,5
1.3	Do I think the content of the system is useful for users?	3,1	5,2	55,2	36,5
***Accuracy* (X2)**					
2.1	Does the system often have errors when making attendance?	2,1	16,7	59,4	21,9
2.2	Is there a username and password for each user?	0	7,3	65,6	27,1
2.3	Am I satisfied with the level of accuracy on the system?	3,1	3,1	61,5	32,3
***Format* (X3)**					
3.1	Are the size and typeface clearly legible?	4,2	12,5	56,3	27,1
3.2	Is the color selection on the system good?	4,2	13,5	59,4	22,9
3.3	Is there appropriate information in the application menu?	2,1	14,6	64,6	18,8
***Ease of Use* (X4)**					
4.1	Is the Darwinbox app easy to use?	4,2	5,2	65,6	25,0
4.2	Is the Darwinbox application easy to access on computer/mobile hardware?	2,1	10,4	53,1	34,4
4.3	Is the Darwinbox application easy to access anywhere and anytime?	1,0	8,3	67,7	22,9
***Timeliness* (X5)**					
5.1	Is the information you are looking for can be obtained in a timely manner?	2,1	4,2	54,2	39,6
5.2	Is the system fast in responding to commands?	7,3	15,6	58,3	18,8

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5.3	Does the system provide prompt notification when a system usage error occurs?	4,2	12,5	56,3	27,1
***User Satisfaction* (Y)**					
6.1	Am I satisfied with the performance of the system?	2,1	14,6	64,6	18,8
6.2	Has the system provided satisfactory service?	2,1	10,4	53,1	34,4
6.3	The Darwinbox system can be said to be successful in providing information services?	4,2	5,2	57,3	33,3

The next step is to measure the interpretation value of each questionnaire statement and obtain the percentage formula and then interpret it according to the percentage value. The results of the Likert Scale Measurement Criteria are shown in the Table 3.

Table 3
Results of Likert Scale Measurement Criteria

No	Respondents Answer				*Likert Scale Score*				Observation Score	Expected Score	Eligibility Percentage
	SD	MD	MA	SA	SD	MD	MA	SA			
Content											
X1.1	4	5	55	32	4	10	165	128	307	384	79%
X1.2	2	7	52	35	2	14	156	140	312	384	81%
X1.3	3	5	53	35	3	10	159	140	312	384	81%
Accuracy											
X2.1	2	16	57	21	2	32	171	84	289	384	75%
X2.2	0	7	63	26	0	14	189	104	307	384	79%
X2.3	3	3	59	31	3	6	177	124	310	384	80%
Format											
X3.1	4	12	54	26	4	24	162	104	294	384	76%
X3.2	4	13	57	22	4	26	171	88	289	384	75%
X3.3	2	14	62	18	2	28	186	72	288	384	75%
Ease of use											
X4.1	4	5	63	24	4	10	189	96	299	384	77%
X4.2	2	10	51	33	2	20	153	132	307	384	79%
X4.3	1	8	65	22	1	16	195	88	300	384	78%
Timeliness											
X5.1	2	4	52	38	2	8	156	152	318	384	82%
X5.2	7	15	56	18	7	30	168	72	277	384	72%
X5.3	4	12	54	26	4	24	162	104	294	384	76%
User satisfaction											
Y1	2	14	62	18	2	28	186	72	288	384	75%
Y2	2	10	51	33	2	20	153	132	307	384	79%
Y3	4	5	55	32	4	10	165	128	307	384	79%

From the results of Table 3, the results of the interpretation table can be concluded that the highest value is 82% contained in the Timeliness variable with the question indicator "Is the information you are looking for can be obtained in a timely manner?" and it is known that the lowest value is 72% contained in the Timeliness variable with the indicator question "Is the system fast in responding to commands?".

Validity Test Result

The purpose of the validity test in this study was to determine the degree of correspondence between what actually happened to the users of the Darwinbox application and the data reported by the researcher. Validity testing can be done by calculating the correlation between each statement or indicator using the total product moment correlation score (r).

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If R-count> 0.200, the measuring tool can be declared valid and vice versa if R-count <0.200 means the measuring tool is declared invalid (Sunarto et al., 2021). Based on Table 4, the validity test above shows that all statements have a Pearson Correlation value that is greater than the r table value (0.200/N = 96-2 = 94). Therefore it can be concluded that the indicators in all statements are acceptable and valid, therefore testing can be continued.

Table 4
Validity Test

Variable	R-count	R-table	Result
C1	0,739	0, 200	Valid
C2	0,685	0, 200	Valid
C3	0,673	0, 200	Valid
A1	0,651	0, 200	Valid
A2	0,524	0, 200	Valid
A3	0,616	0, 200	Valid
F1	0,585	0, 200	Valid
F2	0,720	0, 200	Valid
F3	0,770	0, 200	Valid
E1	0,649	0, 200	Valid
E2	0,693	0, 200	Valid
E3	0,578	0, 200	Valid
T1	0,688	0, 200	Valid
T2	0,642	0, 200	Valid
T3	0,570	0, 200	Valid
Us1	0,770	0, 200	Valid
Us2	0,693	0, 200	Valid
Us3	0,739	0, 200	Valid

Reliability Test Results

Questionnaires can be stated as reliable and consistent or unreliable and inconsistent. To determine whether the questionnaire is reliable or not, it can be seen from the value of Cronbach's Alpha. If the Cronbach's Alpha value is > 0.60, the questionnaire can be considered reliable or consistent, but if the Cronbach's Alpha value is <0.60, the questionnaire is declared unreliable or inconsistent (Sunarto et al., 2021). Based on Table 5, all Cronbach's Alpha values for each variable are not below the standard 0.60, so it can be concluded that the questionnaire is reliable.

Table 5
Reliability Test

Variable	Cronbach Alpha	N Of Items
Content	0,765	3
Accuracy	0,699	3
Format	0,743	3
Ease Of Use	0,700	3
Timeliness	0,726	3
User Satisfaction	0,721	3

Normality Test Results

Based on the results of the Normality test, it is known that the Significance asymp value is 0.200. Because this value is more than 0.05, it can be concluded that the residual values are normally distributed. The normality test is also shown using the Normality P-plot shown in Figure 1. Based on the graphical method, it is known that the points spread around the diagonal line, so it can be concluded that the data obtained has been normally distributed and the regression model can fulfill the assumption of normality.

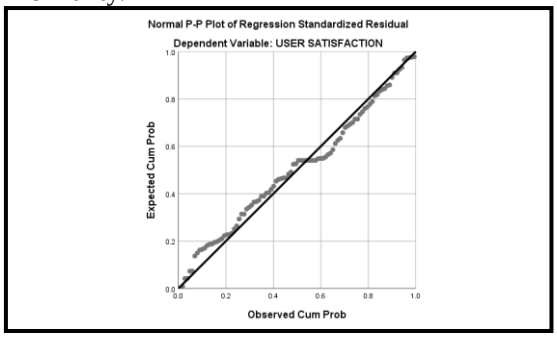


Fig. 1 P-plot Normality Test

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Multicollinearity Test Results

A good regression model is one that does not have a correlation between the independent variables and is free from multicollinearity symptoms. Knowing whether or not there are symptoms of multicollinearity is by looking at the value of the VIF (Variance Inflation Factor) and also the Tolerance value (Sunarto et al., 2021). Based on the test results in Table 6, all of these variables can be said to be free from multicollinearity problems because the tolerance values for all variables are >0.10 and the VIF values for all variables are <10.00.

Table 6
Multicollinearity Test

Variable	Tolerance	VIF	Results
Content	0,473	2,116	Multicollinearity Does Not Occur
Accuracy	0,544	1,837	Multicollinearity Does Not Occur
Format	0,448	2,234	Multicollinearity Does Not Occur
Ease Of Use	0,515	1,191	Multicollinearity Does Not Occur
Timeliness	0,535	1,868	Multicollinearity Does Not Occur

Heteroscedasticity Test Results

A good regression model is one that has homoscedasticity or does not have heteroscedasticity. Based on Table 7, all of these variables can be said to be free from heteroscedasticity problems because each variable has a significance value above 0.05.

Table 7
Heteroscedasticity Test

Variable	Signifikansi	Results
Content	0,541	Homoscedasticity
Accuracy	0,437	Homoscedasticity
Format	0,657	Homoscedasticity
Ease Of Use	0,269	Homoscedasticity
Timeliness	0,245	Homoscedasticity

F-Testing and T-Testing

Based on the results of the F test, the F value for Regression is 84.365 with a significance of 0.00, so that if the sig.0.00 value <0.05 it can be concluded that Ho is rejected and Ha is accepted. This means that there is an influence between the independent variables namely Content, Acuracy, Format, Ease Of Use and Timeliness simultaneously on User Satisfaction (Y).

The results of the T test obtained are shown in Table 8. The T test is calculated for each variable and is obtained in the form of T count with a significance value, namely the Content variable has a value of 0.000, the Accuracy variable has a value of 0.992, the Format variable has a value of 0.000, the Ease Of Use variable (Ease of Use). User) has a value of 0.000, and the Timeliness variable has a value of 0.813.

Table 8
T Testing

Variable	T count	Significance	Result
Content	6,815	0,,000	Influential
Accuracy	-0,010	0,992	No effect
Format	4,350	0,000	Influential
Ease Of Use	5,512	0,000	Influential
Timeliness	-0,237	0,813	No effect

The results of hypothesis testing can explain several things including:
H1 : Variable Content (Content) has an influence on the variable User Satisfaction (User Satisfaction).
H2 : The Accuracy variable has no effect on the User Satisfaction variable.
H3 : Variable Format (Form) has an influence on the User Satisfaction variable (User Satisfaction).
H4 : The Ease Of Use variable has an influence on the User Satisfaction variable.
H5 : Timeliness variable has no effect on User Satisfaction variable.

R-square Determination Test

The results of the R-Square determination test obtained a value of 0.824, when seen from Table 9 the interpretation of the coefficient values above at intervals of 0.71-0.90 which has an influence on user satisfaction or in other words the variables Content, Accuracy, Format, Ease of Use , Timeliness has a very strong level of satisfaction with the Darwinbox application system. The results of the calculation above show a coefficient of determination (R2) of

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0.824, meaning that the percentage of Content, Accuracy, Format, Ease Of Use and Timeliness with user satisfaction is 82.4%, meaning that it has an influence on user satisfaction with a very strong relationship level.

Table 9
Coefficient Interval Test

Interval	Influence Level
0,00-0,20	Very Weak
0,21-0,40	Weak
0,41-0,70	Strong
0,71-0,90	Very Strong
0,91-0,99	Very Very Strong

DISCUSSION

From the results of processing the questionnaire data which has 18 questions and 96 respondents, it can be seen that the quality of the Darwinbox application based on PT Nippon Indosari Corpindo Tbk's employee assessment as a whole is included in the good category based on the results of the Likert scale measurement criteria with the highest value of 82% contained in the Timeliness variable with the question indicator "The information you can be obtained in a timely manner?" and it is known that the lowest value is 72% contained in the Timeliness variable with the indicator question "Is the system fast in responding to orders?".

To test the validity of each statement indicator is valid so that the test is carried out to the next stage. Based on the reliability test of the Cronbach's Alpha value for each variable, nothing is below the standard of 0.60, so it can be concluded that the questionnaire is reliable. The classic assumption test is carried out using the normality test, multicollinearity test, and heteroscedasticity test where each variable meets the permitted value limits. Finally, multiple linear regression tests were carried out to see the impact of the relationship between the dependent variable and the independent variable using the F test, T test, and determination (R-Square).

Simultaneously Content, Accuracy, Format, Ease Of Use and Timeliness have a significant effect on user satisfaction and have a very strong relationship with user satisfaction with a value percentage 82.4%. With this percentage value, it means that application users are very satisfied with the Darwinbox application system.

CONCLUSION

The conclusion contains a summary of what is learned from the results obtained, what needs to be improved in further study. Other common features of the conclusions are the benefits and applications of the research, limitation, and recommendations based on the results obtained.

Based on the results of the discussion and analysis that has been carried out in the previous chapter, the following conclusions can be drawn:

1. Judging from the calculation results of the T hypothesis test, the value of the Content variable (X1) is sig. 0.000, Format (X3) value sig. 0.000, Ease Of Use (X4) sig. 0.000 where the sig. value of 0.05 can be concluded that the independent variable (X) has no partial effect on the dependent variable (Y).
2. Obtained from the Accuracy variable (X2) the sig value. 0.992, Timeliness (X5) sig. 0.813 where the sig.> 0.05 can be concluded that the independent variable (X) has no partial effect on the dependent variable (Y).
3. Content, Accuracy, Format, Ease Of Use and Timeliness have a significant effect on user satisfaction and have a very strong relationship with user satisfaction with a percentage value of 82.4%. With this percentage value, it means that application users are very satisfied with the Darwinbox application system

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