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The Application of End User Computing Satisfaction (EUCS) to Analyze the Satisfaction of MyPertamina User

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Abstract

This study measures how satisfied users are with the application system in order to ascertain both the degree of users' satisfaction and the variables affecting users' contentment. Content, accuracy, format, usability, and timeliness are the five characteristics that make up the End User Computing Satisfaction (EUCS) research model, which is used in this study's quantitative methodology. A purposive selection method was employed to choose the sample for this study, which included 200 respondents. SmartPLS 3.0 software is utilized for the data analysis procedure. One of the five investigated hypotheses was ruled out. Thus, content, correctness, usability, and timeliness are the aspects that can influence application user satisfaction. While the format variable has no impact on program user pleasure. So that the findings of this study can be recommended to companies as authorities to pay more attention to the aspects that affect application user happiness as described.

Keywords: Satisfaction, Application, EUCS.

1. Introduction

The evolution of information technology is advancing fairly quickly as time passes. Of course, the creation of numerous inventions and discoveries in the realm of technology both straightforward and extremely complex can demonstrate this. With the advancement of information technology, humans now tend to need information that is fast, precise, and reliable. With the current technological advances, a need for assistive devices that can help humans solve various problems will become very important. One form of application of the advancement of information technology that is growing rapidly in today's modern era is the presence of an information system. Now the presence of information technology can provide positive side effects in various fields, ranging from the financial sector, the government sector, the business sector, the education sector, and the industrial sector. Where these fields can provide useful results and have produced various positive impacts from changes in every aspect of life. Now, we need to utilize information technology that can provide various needs quickly, precisely, accurately, and reliably. This is due to the implementation of a balanced technology with a company's business strategy to be able to produce increased performance from a company or organization, where this will produce a high value from competitive advantage in conducting business competition [1].

It is important for a company to manage information systems effectively because it will become the basis for gaining a competitive advantage. Therefore, various companies are now starting to develop and pay special attention to information systems as a resource that can facilitate the use of information more effectively. However, in practice, information technology is more difficult to direct because it involves complex relationships between humans, technology, and the environment [2]. Then, if the use of a technology is not controlled properly, it will pose risks that have a negative impact on a company. Technological developments can have an impact on a new innovation in payment methods, namely electronic payment innovation [3]. At present, financial technology (fintech) has provided various kinds of non-cash payment systems (mobile payment), in which there are various interesting features that are useful in making it easier for customers to make various transactions. The existence of a non-cash payment system (Mobile Payment) makes it easier for people to make transactions, and this is considered more effective when compared to cash transactions [4].

Mobile payment is a payment system that makes electronic (non-cash) payments using assistive devices such as smartphones. This mobile payment system makes payments by utilizing various technological media, such as QR

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Code (Quick Response Code), NFC (Near Field Communication), and the OTP (One Time Password) code. Currently, mobile payments are experiencing rapid development in various parts of the world due to their benefits and convenience in making transactions. In 2019, it was found that mobile payments have contributed to the lifestyle of the Indonesian people. As many as 47% of Indonesians state that they have now used mobile payments as a transaction tool. This means that there is an increase from that figure of 9%, which in 2018 was only 38%. So with an increase in the number of people using mobile payments as a means of transaction, this can indicate that the Indonesian people are now accustomed to using mobile payments, and in this case, it means that payments using mobile payments can now be accepted as part of a payment instrument [5].

Knowing that there are a large number of Indonesians using mobile payments, this can certainly encourage business people to start using technology by providing non-cash payment solutions for their consumers. Thus, it is found that now there are many companies implementing electronic payment innovations because this is considered important in attracting customer interest and because, at this time, many Indonesians have used mobile payments as a transaction tool to buy products from retail and e-commerce companies [6]. Even now, PT. Pertamina, which is a company that produces and provides fuel for Indonesia's needs, is participating in developing the latest innovations in terms of finance, namely the development of digital payments, by creating the Loyalty Program, namely the MyPertamina mobile application. functions as a non-cash payment system (cashless payment), where this application makes it easy for users to make fuel payments, which makes it easy for users to spend cash. Besides that, there is a means for customers to get points and rewards every time they make transactions, as well as use e-vouchers that can be used at many merchants who work with Pertamina.

An information system in an organization can be said to be reliable if the system has the ability to produce satisfaction for its users [12]. Where user satisfaction is an indicator of success in an information system development. Where the level of user satisfaction of a system can be used as a reference in the process of developing the system itself, as well as being able to find out the advantages and disadvantages of the system being implemented because the quality of a good information system will be able to increase user satisfaction [13]. Therefore, this research was conducted to find out whether an information system that was implemented was in accordance with user needs or not, in order to demonstrate that an information system was successfully implemented in a certain application [7].

Application users with Jabodetabek addresses make up the sample in this study. This area was chosen because the Jabodetabek area has the most gas stations that can serve transactions using the application, namely 542 gas stations. In addition, because of the total number of users, namely 5 million accounts, who have downloaded the application, 42% of the total downloaders, namely around 2,380,000 accounts, are in the Greater Jakarta area (MyPertamina, 2022). The End User Computing Satisfaction (EUCS) model, which was adopted and developed by Doll and Torkzadeh, is one model that can be used to gauge user satisfaction with an information system. It consists of five factors that gauge user satisfaction with an information system: content, accuracy, format (form), timeliness, and ease of use. A user experience-based evaluation of an information system's use as a whole is what the EUCS refers to as an information system. Doll and Torkzadeh created this model, which is used to gauge how satisfied users are with information systems. Numerous studies have evaluated the EUCS model's dependability, and the results demonstrate no appreciable variations despite the method's translation into various languages.

The EUCS approach can assess the degree of user satisfaction with a system by evaluating the system's content, correctness, appearance, usability, and timeliness as well as by comparing users' expectations and reality regarding an information system that places a strong emphasis on user satisfaction [14]. The EUCS technique places a strong emphasis on user satisfaction as it relates to user experience when using information systems. The elements of the EUCS include content, accuracy, format, usability, and timeliness [8]. The content variable is used to measure the success of the system in producing appropriate (correct) information that meets user needs. Based on the correctness of the data produced by the system as it accepts input and converts it into information, the accuracy variable can quantify user satisfaction. The Format variable gauges user satisfaction based on the system interface's aesthetics and look, the format of the reports it generates, or the information it produces [10]. The ease of use variable gauges how satisfied users are with the system's usability [9]. Based on how quickly the system delivers the data and information customers need, the timeliness variable is used to gauge user satisfaction [11].

The EUCS model was chosen by Doll and Torkzadeh because it is one of the best models for measuring user satisfaction and is a gauge of the success of the most widely used SI. The researcher stated in his research that the majority of other models have not proven to be reliable. That's because EUCS refers to an emotional response to a specific piece of software or program from a user who engages with it directly. And this research also states that this model has been successful in measuring user satisfaction, so this research suggests that you can use this model again.

2. Research Methods

This study employs a quantitative research methodology. Complete data and information are required for this study in order to provide evidence supporting the validity of the research's conclusions. In this study, data were gathered

by observation, literature reviews, and surveys that involved the distribution of questionnaires. The participants in this study are people who reside in Jabodetabek and use the MyPertamina app. Purposive sampling was the method of selection that was employed in this investigation. The research tool was a questionnaire made with a Google Form that included different research statements or questions. Indicators were chosen for each variable in the End User Computing Satisfaction (EUCS) model when the questionnaire was created. After being gathered, all of the data will be examined in this study. In order to evaluate data and test the hypotheses in this study with SEM-PLS utilizing the SmartPLS version 3.0 tools, data processing was done. The measurement model (the outer model) and the structural model (the inner model) are the two model components that make up the SmartPLS analysis.

3. Results and Discussion

3.1. Results of Demographic Data Analysis

It is known that female sex dominated this study of 200 data respondents, with 108 people or 54%, and male sex accounting for only 92 people or 46%. In the age category of respondents, namely the age of 26–32 years, the most respondents were 103, or 50%. This number was followed by 64 respondents aged 18–25 years, or 31%; 24 respondents aged 33–40 years, or 12%; and 9 respondents aged > 40 years, or 7%. This is because the majority of application users are workers with a productive age range, namely 26–32 years old. The most recent education of respondents was Academy/Higher Education with 114 people, or 57%; then SMA/SMK/MA with 79 people, or 39%; and the lowest was SMP/MTS with 7 people, or 4%. This is because application users understand more about using a system with an academy or higher education education, while with a junior high school education, users find it more difficult to understand or are reluctant to use the system. Most respondents are private employees, with 73 people or 36%, followed by students with 42 people or 21%, entrepreneurial jobs with 28 people or 14%, teacher jobs with 21 people or 10%, civil servants with 15 people or 7%, housewives with 11 people or 6%, TNI/Polri with 7 people or 4%, and others with 3 people or 2%. This is because the bulk of app users are between the ages of 26 and 32, when naturally there are more independent contractors. that as many as 68 respondents live in Jakarta with a percentage of 34%, then 46 respondents live in Tangerang with a percentage of 23%, as many as 40 respondents live in Depok with a percentage of 20%, as many as 34 respondents live in Bogor with a percentage of 17%, and as many as 12 respondents live in Bekasi with a percentage of 6%. that respondents who used the internet for a period of > 10 years were 110 people, or 58%; in a period of 6–10 years, there were 68 people, or 30%; and in a period of 1–5 years, there were 22 people, or 12%. Respondents who used the application for a long time (6 months) were 102 people, or 51%; in a period of 6–11 months, there were 63 people, or 31%; and in a period of 1-3 years, there were 35 people, or 18%. Respondents who used the application rarely were 73 people, or 36%; sometimes 56 people, or 28%; very rarely 41 people, or 21%; and often 30 people, or 15%. that as many as 78 people, or 39% of respondents, felt that the role of the application was quite helpful, then less helpful, as many as 56 people, or 28%, while as many as 34 people (17%) felt that the role of the application was not helpful, and as many as 27 people (14%) felt helped, as well as as many as 5 people who felt that the role of the application was very helpful.

3.2. Results of Measurement Model Analysis (Outer Model)

Based on the value of the standardized loading factor, this test is used to validate the indicators for the variables under examination. By examining the outer loading value, this standardized loading factor may also be used to describe the strength of the correlation between each indication and its corresponding construct. This result will be acceptable if the loading factor value is more than 0.7, which denotes that the indicator is valid as a construct-measuring indicator (Yamin & Kurniawan, 2011). In this regard, it can be seen from testing on SmartPLS 3.0 that all of the values for each indicator in this study have complied with the necessary criteria, namely that the value is more than 0.7. In this instance, all indicators' loading factor test results are valid and satisfy the criteria for measuring constructs. The findings of the composite reliability (CR) test is used to conduct this test. The test's findings can be used to demonstrate that each indicator has a consistency value for measuring its construct, with an expected threshold of over 0.7. The composite dependability value for each variable is more than 0.7. This could indicate that these variables have met the criteria and are legitimate for usage in this research model.

The next step is to examine the average variance extracted (AVE) value in order to assess convergent validity. The amount of variance or variety among manifest variables (indicators) that latent variables (constructs) can hold is indicated by the AVE value. A good indicator of convergent validity at the minimum level is 0.5. Cross-loading between indicators and Fornell-Lacker's cross-loading are the two cross-loading phases used in this test. By contrasting the association between indicators and both their own constructions and other block constructs, cross-loading of indicators is studied. The construct may be better at predicting block size than other blocks if the correlation between the indicator and the construct is higher than the correlation with other block constructions. Next, examine the AVE's root value to see if Fornell-Lacker's cross loading exists. The correlation between the construct and the other constructs must be lower than the root value of AVE. Because all cross-loading indicators that are given a yellow block on each variable have a greater value than the correlation with other block constructs,

it can be said that the discriminant validity is good. The correlation between the construct and the other constructs is lower than the AVE root value. Therefore, it is evident from the outcomes of the two-stage cross-loading analysis that the discriminant validity test is in good shape.

It is clear from the four stages of the previous outer model measurement analysis that the model proposed in this study satisfies the criteria for each stage (individual item reliability, internal consistency reliability, convergent validity, and discriminant validity), and that it also has statistically sound characteristics. Therefore, in this instance, it may be said that the model satisfies the criteria needed to move on to testing the structural model (inner model). After analyzing the measurement model (outer model), the results show that the outer loadings values fall into the range of 0.6 to 0.7 and the range above 0.7, and the average variance extracted (AVE) value is greater than 0.5, which means that the research has met the requirements. These findings therefore also support the validity of the measurement model analysis and support the continuation of the analysis to the structural model analysis (inner model).

3.3. Results of Inner Model Analysis

This model is tested in six steps during the inner analysis phase, including the path coefficient (β), coefficient of determination (R^2), bootstrapping t-test, effect magnitude (f^2), predictive relevance (Q^2), and relative impact (q^2). This measurement's explanation will be as follows: Examining the importance of the relationship between constructs is how this test is conducted. This is evident from the route coefficient, which may be used to describe how strongly two constructs are related. By examining the threshold value over 0.1, which can indicate that the desired path has an impact on this study model, the path coefficient (β) is tested. Using the measurement standards of 0.67, which is stated as strong, 0.33, which is thought to be moderate, and 0.19 or below, which indicates a weak level of variance, this test was conducted to explain the variance of each endogenous target variable (variables that are thought to be influenced by other variables in the model). The R-Square of EUS has a value of 0.905, as can be observed from the coefficient of determination test results. Thus, all exogenous variables, including ACC, CON, EOU, FOR, and TIM, strongly explain (90%) the variance of EUS, according to this interpretation.

Utilizing a two-tailed test with a significance level of 5% to assess the study hypotheses is known as the boost rapping approach. If the t-test for these hypotheses is larger than 1.96, they will be considered valid. One hypothesis is rejected, and four hypotheses are accepted. With a threshold value of approximately 0.002 for minor effects, 0.15 for medium effects, and 0.35 for big effects, testing is now conducted to ascertain the impact of specific variables on other variables in the model structure. demonstrates the findings of the f^2 test on the 7 lines used in this investigation. As a result, one path has a medium influence, whereas six paths have tiny effects. To demonstrate that certain factors have predictive relevance with other variables, this test is conducted utilizing the blindfolding method. The measurement's threshold value is greater than zero. Using the blindfold approach, a threshold value of 0.02 is used to indicate a little effect, 0.15 a medium effect, and 0.35 a significant effect in the predictive linkage of a certain variable with other variables. displays the findings from the q^2 test performed on the 7 lines of this investigation. As a result, the seven pathways have minimal impact.

Based on the findings of the model structure analysis, particularly the t-test value, it can be concluded that H1, the relationship between CON and EUS, is valid because the t-test value is greater than 1.96, specifically 2.472 > 1.96. This implies that content (CON) has a favorable impact on end user satisfaction (EUS). In addition, the path coefficient value of 0.162, which indicates that content significantly affects end-user pleasure, supports it. This is consistent with earlier research by Nawir et al. (2021), which found a substantial relationship between the content variable and user happiness. In this instance, it can be concluded that the application system's complete presentation of the information content has an impact on how satisfied users are. Therefore, it can be said that this study accepts H1 as valid.

The association between H2 and ACC and EUS is acknowledged based on the findings of the structural model analysis, specifically the t-test value. The t-test value is > 1.96, specifically 3.931 > 1.96, and can be read as meaning that accuracy (ACC) has a positive influence on end-user satisfaction (EUS). Additionally, it is confirmed by the path coefficient values of 0.331, which indicate that accuracy significantly affects end-user happiness. This is consistent with earlier research by Gunawan et al. (2020), which found a substantial relationship between user satisfaction and the accuracy variable. In this scenario, then, the greater the program boosts the system's correctness, the greater the user pleasure with the application. Acceptance of this hypothesis indicates that there is an influence of user satisfaction on accuracy in presenting information, the information produced is reliable and trustworthy, and the output results on the application are in accordance with what was ordered. Therefore, it can be said that H2 is considered valid for this investigation.

Based on the findings of the model's structural analysis, particularly the t-test value, it can be inferred that H3, the hypothesis that there is a relationship between FOR and EUS, is not supported because the t-test value is < 1.96, or 1.352 > 1.96. This implies that Format (FOR) has no impact on End User Satisfaction (EUS). According to related research by Mahaddah et al. (2019), format variations have a considerable impact on user satisfaction. This study contradicts that finding. Therefore, it may be said that H3 was disregarded in this investigation. H4 Because

the t-test value is > 1.96, specifically 2.097 > 1.96, the association between EOU and EUS is recognized, and it can be inferred that Ease of Use (EOU) positively affects End User Satisfaction (EUS). The results of the path coefficient (β) of 0.155, which indicates that ease of use has a considerable impact on end-user satisfaction, further confirm this statement. This is consistent with earlier research by Mahaddah et al. (2019), which found a substantial relationship between ease of use and user happiness. This shows that there is an influence of user satisfaction on a comfortable and easy-to-use system (user-friendly), the length of time spent studying the system, and the ease with which users interact with the system. Therefore, it can be said that H4 has been acceptable for this investigation. Because the t-test value in H5 is greater than 1.96, or 3.017 greater than 1.96, it can be concluded that timeliness (TIM) has a positive influence on end-user satisfaction (EUS). Additionally, the results of the path coefficient (β) of 0.226, which indicates that timeliness has a considerable impact on end-user satisfaction, confirm this statement. The timeliness variable has a considerable impact on user satisfaction, according to a study that is identical to this one by Gunawan et al. (2020). Therefore, it may be said that H5 is acknowledged in this study.

4. Conclusion

From the existence of the data processing from 200 respondents that has been obtained, it can be seen that as many as 78 respondents (39%) feel quite helped by the application. So, in this case, it can be concluded that the existence of the application is quite helpful in meeting the needs of respondents, but there are still many shortcomings, which can mean that the application has not provided satisfaction to its users. Out of a total of 23 indicators in this study, every indication has a loading factor value above 0.7, according to individual item reliability testing. It follows that in this instance, all indicators are reliable and satisfy the criteria for measuring variables. According to the results of the studies, content, correctness, usability, and timeliness are the variables that can influence application user satisfaction. Given the seven hypotheses that have been put out, it can be concluded that four of them Content EUS, Accuracy End User Computing Satisfaction (EUS), Ease of Use EUS, and Timeliness EUS are valid. This is because the four paths passed the t-test. The five pathways are significant, according to the findings of the path coefficient test. This indicates that a number of factors, including content, accuracy, usability, and timeliness, have been shown to significantly influence how well users rate an application. One of the five hypotheses, Format End User Computing Satisfaction, was disproved since the pathway failed the t-test. Consequently, it can be said that user happiness is not directly impacted by the format. This means that without the system displaying an attractive application display design as well as color combinations in the application that don't tire the eye, users will still feel satisfied when using the application. The rejection of this hypothesis shows that there are differences in the results with previous similar studies, namely research, where there were two hypotheses rejected in this study, namely security end user satisfaction and format end user satisfaction. The researcher believes that the differences in the results of this study are a natural thing, considering that there are differences in research objects, samples, and instruments, as well as limitations and constraints during research implementation, which are also the main triggering factors that can influence differences in research results.

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