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# Analysis of Pedulilindungi Applications for Travelers in the Covid-19 Pandemic

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**Abstract:** This study aim to investigate the acceptance of PeduliLindungi in the community, specially people in Central of Balikpapan city who perform PCR and antigen tests for traveling. For analyzing data, this research used user experience questionnaire (UEQ) tools that consists of 26 questions. The 26 questions in the UEQ tools can be classified become six categories, those categories are: attractiveness, perpicuity, efficiency, dependability, stimulation and novelty. Respondents of this study is 44 people and the results show that attractiveness, perspicuity, efficiency, dependability, stimulation, and novelty have positive evaluation. Novelty in this study has the lowest value, it means that PeduliLindugi application lack of creativity. If compare with data in the bencmark of UEQ tool, the PeduliLindungi has value below average.

**Keyword:** PeduliLindungi Application, UEQ tool, Bencmark, Novelty

## I. Introduction

In January 2020 the world was shocked by an outbreak of a new respiratory infection virus that started from Wuhan, Hubei Province, which then spread to various countries. The World Health Organization (2020) has named this pandemic as Corona Virus Disease 2019 (COVID-19), where the first case was found in December 2019. This disease has spread to all corners of the world and causes ongoing pandemics. The spread of this disease has had a broad social and economic impact, including in Indonesia. The increase in Covid-19 cases in various parts of the world, including Indonesia, may be due to the emergence of the Delta COVID-19 variant.

The spread of the disease is quite wide and fast, forcing governments to act quickly. One of them is by implementing various health protocol regulations that limit direct interaction for the community, in order to reduce the spread of the virus. The implementation of this fairly strict health protocol, indirectly has a large enough impact for the community and economic actors. The existence of quite strict regulations in limiting interpersonal interaction forces economic actors to think of more effective and innovative ways to be able to reach customers with minimal interaction. One way that economic actors do is to change their interaction pattern from a face-to-face system directly to an online system.

One of the Government's efforts to reduce or stop the number of patients affected by the Covid-19 disease is to carry out tracking and tracing for every traveler, the obligation to carry out PCR or antigen for travellers, and also carry out mass vaccinations for the entire community. To facilitate the process of monitoring the health data of these travelers, the Government launched the E-HAC Application. In the E-HAC application, the health data (tracing, tracking, PCR and antigen test results, as well as vaccination status) of the travel agents are listed. For those who will travel outside the region, a PCR (polymerase chain reaction) or antigen examination is required and are required to download the E-HAC Application as one of the requirements to travel domestically using non-land transportation.

E-HAC stands for Electronic - Health Alert Card. The E-HAC system was developed by the Indonesian Ministry of Health, namely the Directorate of Health Surveillance and Quarantine, the Directorate General of Disease Prevention and Control. The purpose of using E-HAC is to quickly monitor all international and domestic travelers who will come to Indonesia through seaports and airports, including one of them is to monitor the spread of diseases carried by all passengers. The use of E-HAC itself has been enforced by the Government since June 26, 2020, with the issuance of SE No. HK.02.01/MENKES/382/2020. When purchasing airplane and/or ship tickets, travelers who will travel domestically and abroad are required to show a certificate of negative RT-PCR examination results or a certificate of results from the rapid test of non-reactive antigen/antibody to the airline/service operator electronically or non-electronic. Travelers are expected to have downloaded and filled out the E-HAC application upon departure and officers can verify. At that time, the problem for the E-HAC application was many laboratories are not yet connected to the Health application owned by the Government or the Ministry of Health, thus facilitating the falsification of results.

Another government effort in fighting Covid-19 is by utilizing technology for the development of digital applications that are able to track users to stop the spread of Corona Virus Disease (Covid-19). This application is named "PeduliLindungi (Care Protect)".

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This application relies on community participation to share location data with each other which has been in effect since April 2020 with the aim of being able to do tracking, tracing and others. The PeduliLindungi application was launched by the Ministry of Communication and Information in April 2020 through the Decree of the Minister of Communication and Information No. 171 of 2020 as the basis for tracing, tracking, and fencing through telecommunications infrastructure, systems and applications to support health surveillance.

The designation of this website-based application as well as Android and iOS when it was created was to support the implementation of the Covid-19 Vaccination Program. How to use this application is actually quite easy because many people are used to using and going with their cellphones as a means of communication. However, problems that arise from the Pedulilindungi application include not all communication tools or mobile phones that can support this application; so that many people still do not understand and do not participate in making this application work properly.

In connection with the use of the E-HAC Application and the PeduliLindungi Application, both of which aim to protect everyone from the Covid-19 disease, the Government issued a policy of merging the two applications as of August 23, 2021. So that only one application is used, namely the PeduliLindungi Application. This application will be connected to the Health Application belonging to the Ministry of Health called the NAR Application (New All Record-19). The usefulness of the NAR (New All Record -19) application makes it easier for the Government to search for health data from all travelers throughout Indonesia by checking the NIK or Population Identification Number of the E-KTP they have.

This study aims to analyze the use of PeduliLindungi Application that now merge with E-HAC Application. Previous studies have been conducted, but only focusing in the PeduliLindung itself and not merge with E-HAC (Martinadhia et al., 2021; Haerani & Alam, 2021; Putri & Radja, 2021; Nurhidayati et al., 2021). Martinadhia et al. (2021) mentions from a legal perspective there are some problems in the use of PeduliLindungi Application, such as not evenly ease technology in use PeduliLindungi Applications, protection vulnerability against Data Leakage Risk, location activation obligations is offending user privacy. Using user experience questionnaire (UEQ) tool, Haerani & Alam (2021) found that attractiveness, clarity, efficiency, accuracy, stimulation and novelty of PeduliLindungi Application still has very low scores. Putri & Radja (2021) also examined the PeduliLindungan Application to look at the disaster analysis model in the government's protected care program, which was designed as a kind of disaster mitigation in Indonesia. Nurhidayati et al. (2021) in their study found that data protection personal user of PeduliLindungi Application is based on the regulations governing Information Technology and Communication, Health, and Implementation of Population administration, even though the government provides security guarantees for PeduliLindung users, but until now PeduliLindung application users have still not in demand. Different with previous studies, Sefrika (2021) and Irawati et al. (2019) focused on theory Technology Acceptance Model (TAM) for analyzing the PeduliLindungi Application. This study analyze Peduli L in dungi Application that merge with E-HAC.

## II. Literature Review

### PeduliLindungi Application

The PeduliLindung application is stipulated through the Decree of the Minister of Communication and Information Number 171 of 2020 as amended by the Decree of the Minister of Communication and Informatics Number 253 of 2020 concerning Amendments to the Decree of the Minister of Communication and Information Technology Number 171 of 2020 concerning the Determination of the PeduliLindungi Application in the context of implementing Health Surveillance for Handling Corona Virus Disease 2019 (Covid-19). As an application that is used in the implementation of health surveillance by the government in dealing with the spread of Covid-19, the Pedulilindungi application must continue to be maintained because it is very helpful for the community in tracing, tracking, fencing and warning Covid-19.

The Pedulilindungi application is still being developed by completing various features that can make it easier for people in the new normal era, one of which will be the addition of the e-passport feature as a travel document in the form of user data that has been declared negative for the Covid-19 test. The government will also improve the Pedulilindungi application so that it can be used by non-smartphone telephone devices.

In addition, the government has also created a monitoring dashboard that is used for tracing, tracking, and fencing. In this case, dashboard tracing and tracking to see users who have closed-contact with positive patients. Fencing dashboard to see the movement of people in self-quarantine. Monitoring is available at the Ministry of Health which can be used in particular to monitor patients and people who are self-quarantining. Indonesia as an Asian country with a large population and islands must of course also try to maintain the health of its citizens, by asking all citizens to take part in downloading the Pedulilindungi application as a means of anticipating the Covid-19 outbreak through the government together with Ministry of Communication and Information and the ministry of health. Fitur PeduliLindungi Application can be seen in the figure 1 below.

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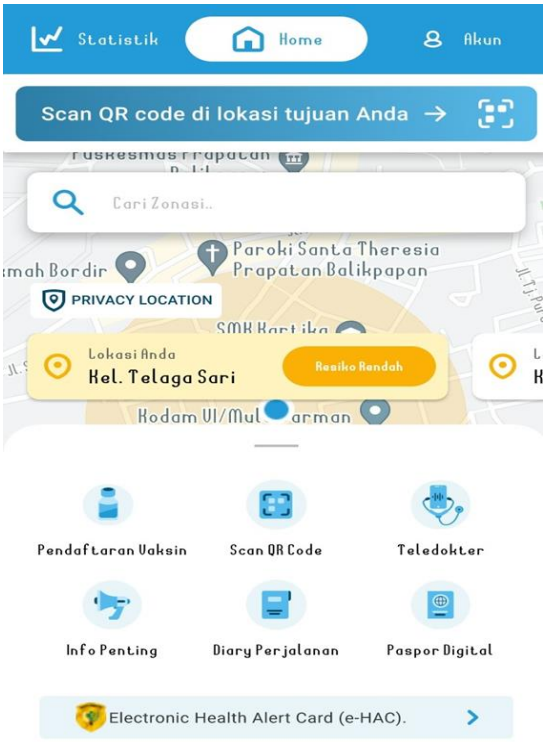



Figure 1: The PeduliLindungi Application shows our location

This application was created to identify people who have been in close contact with people who have tested positive for Covid-19 or Patients Under Surveillance (PDP) and People Under Surveillance (ODP). Through the application, the user can remember his travel history and with whom he made contact. In addition, this application can also make it easier for people who are active outside the home to be aware of virus carriers.

The PeduliLindung application works for people who have downloaded this application. They are asked to activate blue tooth on their cellphones. It is hoped that with the condition of blue tooth being active, the application will periodically identify other PeduliLindung users' phones, which are in the blue tooth radius, to record their location and contact time. The mechanism is that adjacent cellphones will then record each other's anonymous IDs, the Anonymous ID data will be stored within 14 days, so that if someone is declared sick by a health worker (not by an application) and inputted into the database system, then the system will filter out other anonymous IDs that have been in contact with Covid-19 sufferers in the last 14 days. The Pedulilindungi application was created by the government as an anticipation of the Covid-19 that occurred in Indonesia.

The obstacle in socializing the use of the PeduliLindung application is that the utilization of the PeduliLindung application is currently not fully optimal due to the delay in the process of filling in the data of positive Covid-19 people by the relevant agencies, and the number of users of the PeduliLindung application still needs to be increased. For this reason, so that the effectiveness of the PeduliLindung application can be further improved by instructions from the government that include: require all travelers to use digital travel permits that exist in Pedulilindungi; prepare field officers regarding verification of digital travel permits at Pedulilindungi; prepare personnel to verify travel permit applications; checking for travellers, namely employees, by building security to download and use the Pedulilindungi application on mobile devices before being allowed to enter the building; and checking travelers in malls or tourist areas by security to use the Pedulilindungi application before being allowed to enter the mall or tourist area.

**New All Record TC-19 (NAR) Application**

The New All Record (NAR) application is an application created by the Ministry of Health as health data, which has the objectives and benefits for: recording of Covid-19 reports, contact tracing, scan the e-Hac travel terms, venue check in, self isolation telemedicine, and Covid-19 R&D. Minister of Health Decree No. HK.01.07-MENKES-405-2020 states that each laboratory is required to report or fill out the results of the Covid-19 specimen examination into the TC-19 all record system. So, With this application, it is easier for the government to obtain health data for all travelers and non-travelers in an effort to anticipate health problems during the pandemic.

Filling out the NAR application can only be accessed by Health Service Facilities, Laboratories and the Health Service. As for the laboratories registered in the Ministry of Health network for carrying out PCR or Antigen tests, the current number registered throughout Indonesia reaches 908 (updated data as of December 12, 2021). The management of the NAR application is used for PCR and antigen test carried out in the Clinical Laboratory. Obstacles in filling out the TC-19 All Record Application (NAR) in

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order to be able to send the results of the PCR or Antigen test in the PeduliLindungi application are: if the Ministry of Health is updating the allrecord TC-19 application, it will cause access to be blocked; the mobile number as a communication tool provided does not match the one registered in the Cares for Protection application; not updating data in the Pedulilindungi application, for example, ID is not entered in the application's personal data; and mobile as a communication tool is not supported.

**III. Research Method**

This study used qualitative approach. The respondents of this study are 44 people in the Central of Balikpapan city that perform PCR and antigen tests for traveling. Collecting data of this study is 5 working days (Monday, Tuesday, Wednesday, Thursday, and Friday). Collecting data that used in this study was User Experience Questionnaire (UEQ) toolkit. The UEQ Toolkit is a questionnaire test tool that is used to test the usability of the user experience level of a product. UEQ has 26 questions which are scaled to 6 categories and can be downloaded on the official website http://www.ueq-online.org (Schrepp, 2019). The six scales are attractiveness, efficiency, perspicuity, dependability, stimulation, and novelty. The six scales for this study can be described in the figure 2 below.

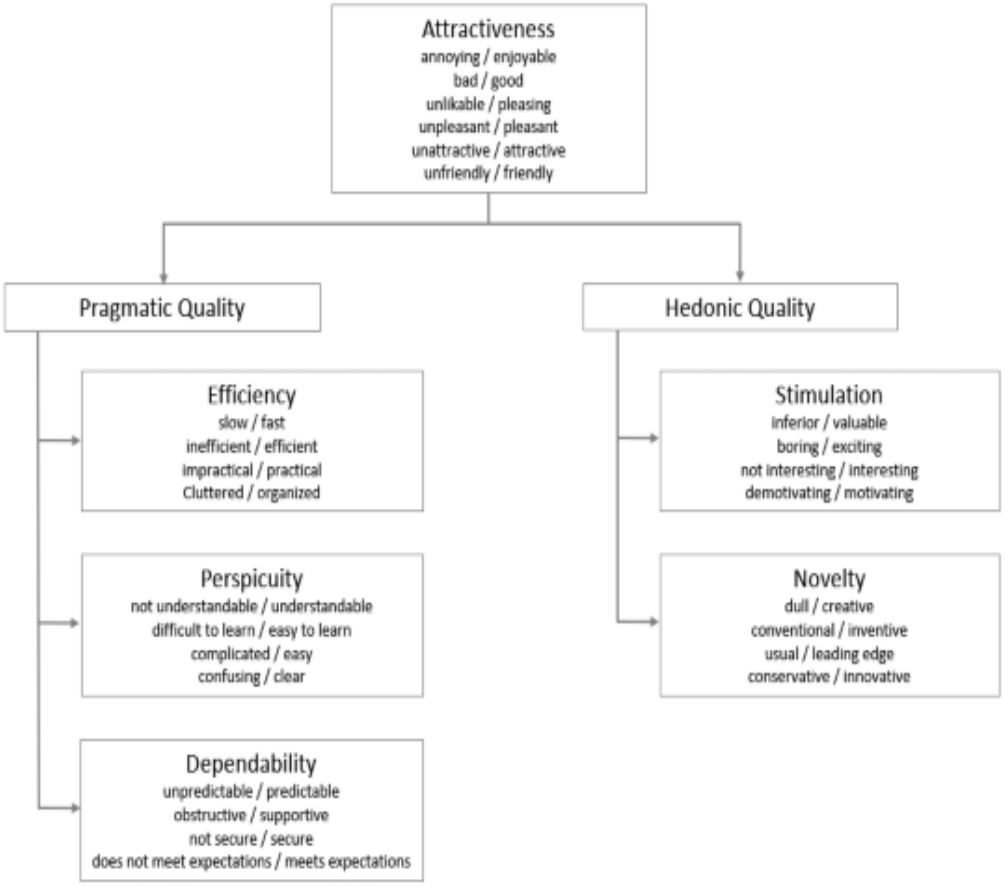



Figure 2: Assumption of Scale Structure of UEQ

The UEQ analysis has five categories namely Very Good, Good, Above Average, Below Average, and Poor. Table 1 below describe the scores of those categories.

Table 1: Scores of the categories

| Aspects | Very good | Good | Above Average | Below Average | Poor |
|---|---|---|---|---|---|
| Attractiveness | > 0.66 | > 0.26 | > 0.4 | > 0.49 | 0.69 |
| Perspicuity | > 0.5 | > 0.27 | > 0.53 | > 0.48 | 0.72 |
| Efficiency | > 0.62 | > 0.38 | > 0.45 | > 0.45 | 0.6 |
| Dependability | > 0.8 | > 0.22 | > 0.34 | > 0.36 | 0.78 |
| Stimulation | > 0.8 | > 0.35 | > 0.35 | > 0.5 | 0.5 |
| Novelty | > 0.9 | > 0.48 | > 0.42 | > 0.54 | 0.16 |

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The statements in the UEQ toolkit can be seen in the figure 3 below.

| | 1 | ... | 7 | | |
|---|---|---|---|---|---|
| annoying | O | ... | O | enjoyable | 1 |
| not understandable | O | ... | O | understandable | 2 |
| creative | O | ... | O | dull | 3 |
| easy to learn | O | ... | O | difficult to learn | 4 |
| valuable | O | ... | O | inferior | 5 |
| boring | O | ... | O | exciting | 6 |
| not interesting | O | ... | O | interesting | 7 |
| unpredictable | O | ... | O | predictable | 8 |
| fast | O | ... | O | slow | 9 |
| inventive | O | ... | O | conventional | 10 |
| obstructive | O | ... | O | supportive | 11 |
| good | O | ... | O | bad | 12 |
| complicated | O | ... | O | easy | 13 |
| unlikable | O | ... | O | pleasing | 14 |
| usual | O | ... | O | leading edge | 15 |
| unpleasant | O | ... | O | pleasant | 16 |
| secure | O | ... | O | not secure | 17 |
| motivating | O | ... | O | demotivating | 18 |
| meets expectations | O | ... | O | does not meet expectations | 19 |
| inefficient | O | ... | O | efficient | 20 |
| clear | O | ... | O | confusing | 21 |
| impractical | O | ... | O | practical | 22 |
| organized | O | ... | O | cluttered | 23 |
| attractive | O | ... | O | unattractive | 24 |
| friendly | O | ... | O | unfriendly | 25 |
| conservative | O | ... | O | innovative | 26 |

Figure 3: Statements of UEQ

Items are scaled from minus three (-3) to positive three (+3). So, -3 represents the most negative answer, 0 the neutral answer, and +3 the most positive answer. With a total of 7 scales of pairs of meaningfully contradicting attributes that can represent the operational statement of E-HAC in the PeduliLindungi application. Respondents expressed what they felt when using the application by choosing an answer between 1 and 7 which was closest to the experience they had when using the E-HAC application.

## IV. Results and Discussions

### Results

This study described the respondents by gender, age, and occupation. The female respondents of this study is higher than male. There are 18 people male and 26 people female. Based on the occupation, there are 39 employees, 3 housewife, and 2 others. It can be said that most of the employees need PCR and antigen tests. Based on the age, there are 11 respondents have the age between 20 and 40 year old and 33 respondents are between 40 and 60 years old. It can be said, that people who traveling and have PCR and antigen tests are adult people.

The UEQ assessment consists of seven stages on data analysis tools. The first stage is data processing by entering the result data filling out the questionnaire into the starting tools from question number 1 to 26 as many as 44 respondents. The second stage performs data conversion by changing the value per item accordingly order of values i.e. +3 represents a positive value and -3 the most negative value. Data conversion process produce the average score of each person grouped by six scale. The third stage is calculating the mean. The fourth stage is deciding confidence intervals. Here the 5% confidence interval for the mean single-item scale and average displayed. The confidence interval is a measurement for the accuracy of the average estimate scale. The fifth stage is answer distributions for single items. If there are items that show polarization in answer (many negative ratings and many positive and not much of a neutral rating), it can help to get deeper insight into aspects of product experienced as quite positive by one subgroup of participants and enough negative by other subgroups. The sixth stage is scale consistency. Items belonging to the same scale must show a high correlation in general. Here, it can find correlation of items in scale and multiple common coefficients, Cronbachs Alpha and Guttmans Lambda2, which are usually used to estimate scale reliability. The last stage is benchmark. UEQ uses benchmark standards, measurable scale means are established and have been widely supported so total version exists 37 languages.

The first stage of this study in using UEQ can be seen in the table 2 below.

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Table 2: Weight of the respondents' answers

| Item | Mean | Variance | Std. Dev. | No. | Left | Right | Scale |
|---|---|---|---|---|---|---|---|
| 1 | 0,9 | 2,4 | 1,5 | 44 | annoying | enjoyable | attractiveness |
| 2 | 1,5 | 2,3 | 1,5 | 44 | not understandable | understandable | perspicuity |
| 3 | 0,4 | 2,8 | 1,7 | 44 | creative | dull | novelty |
| 4 | 0,7 | 3,8 | 1,9 | 44 | easy to learn | difficult to learn | perspicuity |
| 5 | 0,9 | 2,7 | 1,7 | 44 | valuable | inferior | stimulation |
| 6 | 0,7 | 2,2 | 1,5 | 44 | boring | exciting | stimulation |
| 7 | 0,8 | 2,5 | 1,6 | 44 | not interesting | interesting | stimulation |
| 8 | 0,8 | 2,3 | 1,5 | 44 | unpredictable | predictable | dependability |
| 9 | 0,5 | 3,7 | 1,9 | 44 | fast | slow | efficiency |
| 10 | 0,8 | 2,6 | 1,6 | 44 | inventive | conventional | novelty |
| 11 | 1,1 | 2,5 | 1,6 | 44 | obstructive | supportive | dependability |
| 12 | 0,7 | 3,4 | 1,9 | 44 | good | bad | attractiveness |
| 13 | 1,0 | 2,5 | 1,6 | 44 | complicated | easy | perspicuity |
| 14 | 0,9 | 2,0 | 1,4 | 44 | unlikable | pleasing | attractiveness |
| 15 | 0,7 | 2,2 | 1,5 | 44 | usual | leading edge | novelty |
| 16 | 0,9 | 2,9 | 1,7 | 44 | unpleasant | pleasant | attractiveness |
| 17 | 0,5 | 3,0 | 1,7 | 44 | secure | not secure | dependability |
| 18 | 0,4 | 2,9 | 1,7 | 44 | motivating | demotivating | stimulation |
| 19 | 0,6 | 2,9 | 1,7 | 44 | meet expectation | doesn't meet expectation | dependability |
| 20 | 1,0 | 2,4 | 1,6 | 44 | inefficient | efficient | efficiency |
| 21 | 1,0 | 2,6 | 1,6 | 44 | clear | confusing | perspicuity |
| 22 | 1,1 | 2,8 | 1,7 | 44 | impractical | practical | efficiency |
| 23 | 0,7 | 3,3 | 1,8 | 44 | organized | cluttered | efficiency |
| 24 | 0,7 | 2,6 | 1,6 | 44 | attractive | unattractive | attractiveness |
| 25 | 0,9 | 3,1 | 1,8 | 44 | friendly | unfriendly | attractiveness |
| 26 | 0,9 | 3,2 | 1,8 | 44 | conservative | innovative | novelty |

Source: Data processed 2022

Based on respondents' answers to each question, the midpoint, variation and standard deviation were calculated for each question. Then the questions are grouped into six scales, namely attractiveness, clarity, efficiency, accuracy, stimulation and novelty and are given a distinguishing color code.

Results of the second stage of UEQ assessment of this study that conversion the value per item to become positive and negative value can be seen in the figure 4 below

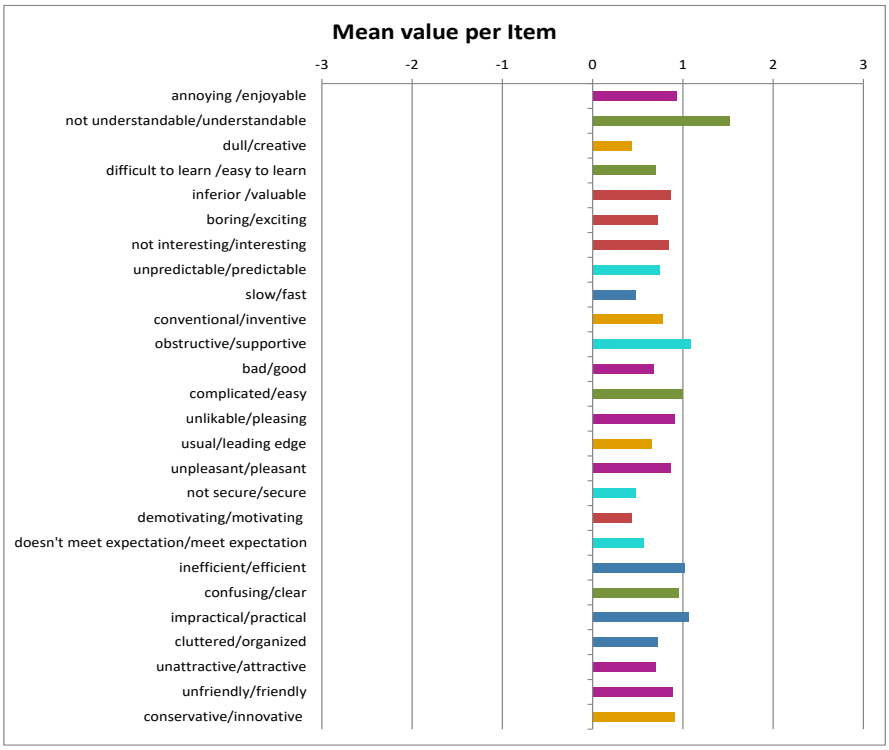



Figure 4: Mean Value per Item

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The third stage is calculating mean. Results of mean and variance of UEQ scale of this study can be seen in the table 3 below.

Table 3: Mean and Variance

| UEQ Scales (Mean and Variance) | | |
|---|---|---|
| Attractiveness | 0,830 | 1,02 |
| Perspicuity | 1,045 | 1,12 |
| Efficiency | 0,824 | 1,19 |
| Dependability | 0,722 | 1,17 |
| Stimulation | 0,716 | 1,18 |
| Novelty | 0,693 | 0,88 |

Source: Data processed 2022

Based on the table 3 above, it can be seen that the attractiveness category receives the score of 0.830, which lies in the zone of positive evaluation score which range from 0.8 to the maximum score of 3. It means that the respondents liked the way the PeduliLindungi Application was designed. The perspicuity category receives the score of 1.045 in a positive evaluation. The perspicuity category receives the best result of any other category. It means that the respondents find the PeduliLindungi Application is easy to get familiar. The efficiency category receives the score of 0.824, the score that makes the efficiency category of the PeduliLindungi Application receives a positive evaluation. It means that the respondents can fill in the PeduliLindungi Application with ease and no need of unnecessary effort.

The dependability category receives the score of 0.722, which lies in the positive evaluation zone. It means that the operational of PeduliLindungi application is directly, making the users feels in control with the interaction. The stimulation category receives the score of 0.716, which lies in the positive evaluation zone. It means that the users feels motivated to use the PeduliLindungi Application. The novelty category receives the score of 0.693, which lies in the zone of positive evaluation. The novelty category receives the worst result of all the other categories which means that the view of the PeduliLindungi lacks of creativity. For more detail, the scale can be seen in the figure 5 below.

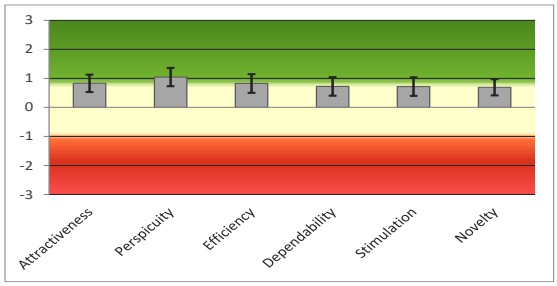



Figure 5: Graphic of Average Scale

The fourth stage is deciding confidence intervals. The smaller the confidence interval is, the higher is the precision of the estimation and the more the results can be trusted. The width of the confidence interval depends on the number of available data and on how consistenly the persons judged the evaluated product. The more consistent their opinion is the smaller is the confidence interval. Table 4 and 5 below describe the result of confidence intervals per item and per scale of this study.

Table 4: Confidence Intervals per Item

| Confidence interval (p=0.05) per item | | | | | | |
|---|---|---|---|---|---|---|
| Item | Mean | Std. Dev. | N | Confidence | Confidence interval | |
| 1 | 0,932 | 1,546 | 44 | 0,457 | 0,475 | 1,389 |
| 2 | 1,523 | 1,532 | 44 | 0,453 | 1,070 | 1,976 |
| 3 | 0,432 | 1,662 | 44 | 0,491 | -0,059 | 0,923 |
| 4 | 0,705 | 1,948 | 44 | 0,576 | 0,129 | 1,280 |
| 5 | 0,864 | 1,651 | 44 | 0,488 | 0,376 | 1,351 |
| 6 | 0,727 | 1,484 | 44 | 0,439 | 0,289 | 1,166 |
| 7 | 0,841 | 1,569 | 44 | 0,464 | 0,377 | 1,305 |
| 8 | 0,750 | 1,527 | 44 | 0,451 | 0,299 | 1,201 |
| 9 | 0,477 | 1,911 | 44 | 0,565 | -0,087 | 1,042 |
| 10 | 0,773 | 1,626 | 44 | 0,481 | 0,292 | 1,253 |
| 11 | 1,091 | 1,567 | 44 | 0,463 | 0,628 | 1,554 |
| 12 | 0,682 | 1,852 | 44 | 0,547 | 0,134 | 1,229 |
| 13 | 1,000 | 1,570 | 44 | 0,464 | 0,536 | 1,464 |
| 14 | 0,909 | 1,411 | 44 | 0,417 | 0,492 | 1,326 |
| 15 | 0,659 | 1,478 | 44 | 0,437 | 0,222 | 1,096 |
| 16 | 0,864 | 1,693 | 44 | 0,500 | 0,364 | 1,364 |
| 17 | 0,477 | 1,718 | 44 | 0,508 | -0,030 | 0,985 |
| 18 | 0,432 | 1,704 | 44 | 0,503 | -0,072 | 0,935 |
| 19 | 0,568 | 1,690 | 44 | 0,499 | 0,069 | 1,068 |
| 20 | 1,023 | 1,562 | 44 | 0,462 | 0,561 | 1,484 |
| 21 | 0,955 | 1,628 | 44 | 0,481 | 0,474 | 1,435 |
| 22 | 1,068 | 1,662 | 44 | 0,491 | 0,577 | 1,559 |
| 23 | 0,727 | 1,809 | 44 | 0,535 | 0,193 | 1,262 |
| 24 | 0,705 | 1,608 | 44 | 0,475 | 0,229 | 1,180 |
| 25 | 0,886 | 1,768 | 44 | 0,522 | 0,364 | 1,409 |
| 26 | 0,909 | 1,776 | 44 | 0,525 | 0,384 | 1,434 |

Source: Data processed 2022

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Table 5: Confidence Intervals per Scale

| Confidence intervals (p=0.05) per scale | | | | | | |
|---|---|---|---|---|---|---|
| Scale | Mean | Std. Dev. | N | Confidence | Confidence interval | |
| Attractiveness | 0,830 | 1,009 | 44 | 0,298 | 0,532 | 1,128 |
| Perspicuity | 1,045 | 1,057 | 44 | 0,312 | 0,733 | 1,358 |
| Efficiency | 0,824 | 1,090 | 44 | 0,322 | 0,502 | 1,146 |
| Dependability | 0,722 | 1,083 | 44 | 0,320 | 0,402 | 1,041 |
| Stimulation | 0,716 | 1,086 | 44 | 0,321 | 0,395 | 1,037 |
| Novelty | 0,693 | 0,938 | 44 | 0,277 | 0,416 | 0,970 |

Source: Data processed 2022

The fifth stage of UEQ assessment is distributions of answer for per item. Figure 6 below shows the distribution of answer per item for this study.

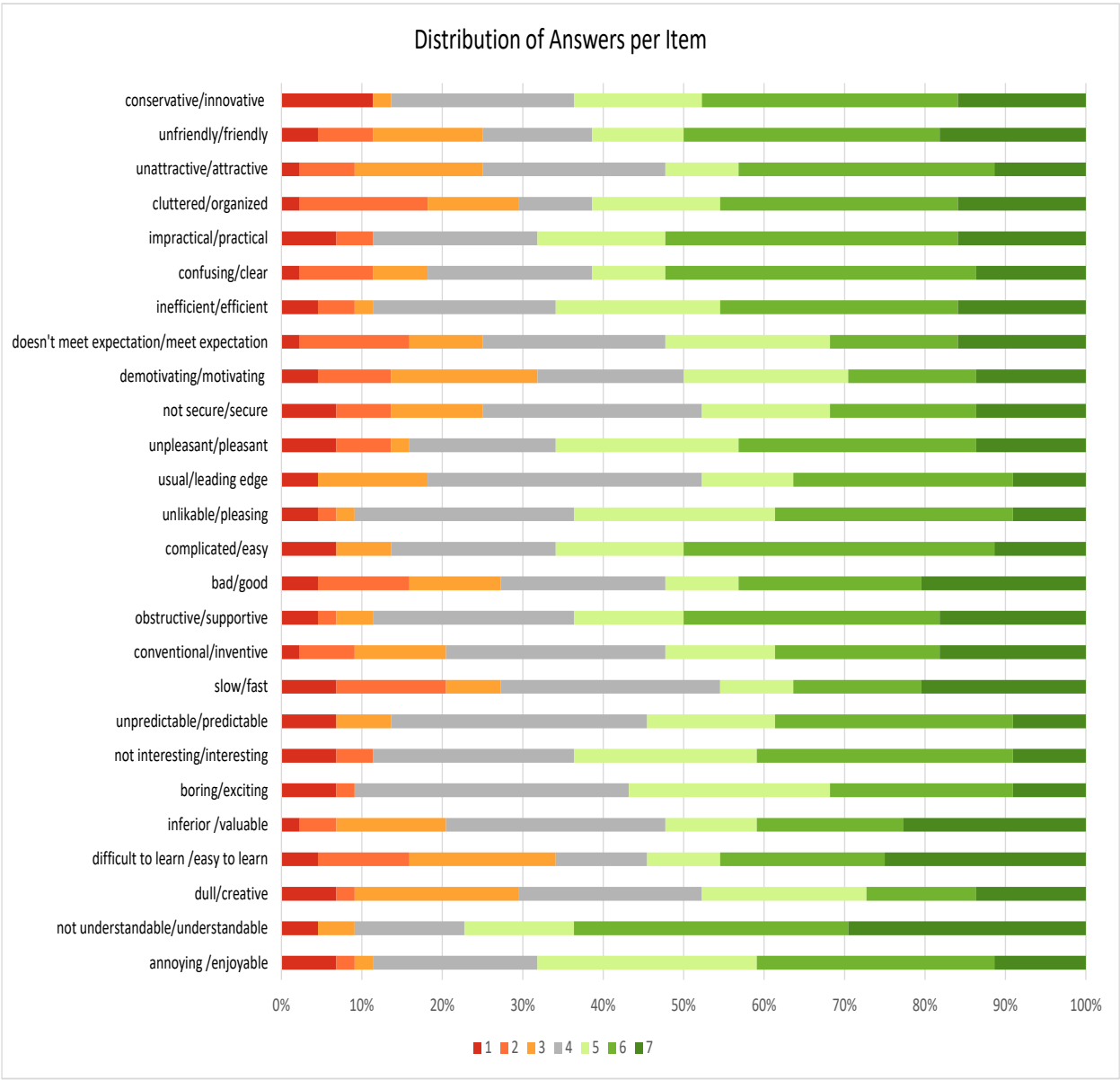



Figure 6: Distributio of Answer per Item

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The sixth stage is seeing the scale consistency. This study used Cronbachs Alpha and Guttmans Lambda2 to measure the scale consistency. Table 6 below shows the results of Cronbachs Alpha and Guttmans Lamda2.

Table 6: Cronbachs Alpha and Guttmans Lamda2

| | Cronbachs Alpha | Guttmans Lamda2 |
|---|---|---|
| Attractiveness | 0.79 | 0.76 |
| Perspicuity | 0.69 | 0.62 |
| Efficiency | 0.69 | 0.63 |
| Dependability | 0.74 | 0.64 |
| Stimulation | 0.76 | 0.70 |
| Novelty | 0.58 | 0.46 |

Source: Data processed 2022

There is no generally accepted rule how big the value of the Cronbachs Alpha should be. Many authors assume that a scale should show an alpha value > 0.7 to be considered as sufficiently consistent. Another coefficient often reported as a measure of reliability of a scale is Guttmans Lambda2 coefficient. Lambda2 is higher than Chronbachs Alpha. It can be seen in the table 6 above, that the values of Cronbachs Alpha and Guttmans Lamda2 of the six scale are around 7, except for novelty. Therefore, it can be concluded that attractiveness, perspicuity, efficiency, dependability, and stimulation are sufficiently consistent.

The last stage of UEQ assessment is bencmark. Benchmark is used to compare the result of this study with the existing values from a benchmark data set. This data set contains data from 21175 persons from 468 studies concerning different products (business software, web pages, web shops, social networks). The comparison of the results for the evaluated product with the data in the benchmark allows conclusions about the relative quality of the evaluated product compared to other products. Table 7 below describes the bencmark of this study.

Table 7: Bencmark

| Scale | Mean | Comparisson to benchmark | Interpretation |
|---|---|---|---|
| **Attractiveness** | 0,83 | **Below average** | 50% of results better, 25% of results worse |
| **Perspicuity** | 1,05 | **Below Average** | 50% of results better, 25% of results worse |
| **Efficiency** | 0,82 | **Below Average** | 50% of results better, 25% of results worse |
| **Dependability** | 0,72 | **Bad** | In the range of the 25% worst results |
| **Stimulation** | 0,72 | **Below Average** | 50% of results better, 25% of results worse |
| **Novelty** | 0,69 | **Below Average** | 50% of results better, 25% of results worse |

Source: Data processed 2022

Figure 7 also describes the bencmark of this research.

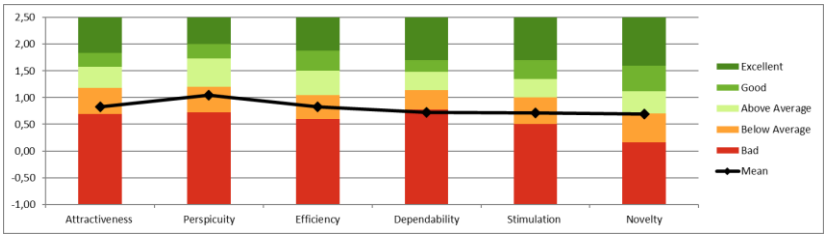



Figure 7: Bencmark

As seen on figure 7, the PeduliLindungi Application was categorized as 'Below Average' in the

Attractiveness, Perspicuity, Efficiency, stimulation, and Novelty categories. The Dependability category was categorized as 'bad', which means that the user's motivation to use PeduliLindungi Application is poor. The Novelty category was categorized as 'Bad', which means that the PeduliLindungi Application is in the range of the worst results. From the benchmark data, it can be seen that the operation of E-HAC in the Pedulilindungi application still has many shortcomings because all scales are still below average.

## V. Discussions

Results of the UEQ assessment found that the attractiveness, perspicuity, efficiency, stimulation, dependabilty, and novelty of the PeduliLindungi Application are in the positive evaluation. Perspicuity has the highest score, it means that the application is very friendly and easy to use. Novelty category although in the positive evaluation, it has the lowest score. It means that the application is lack of creativity. This result is opposite with Haerani & Alam (2021). Using 420 respondent who already have first vacsine in the West Java, Indonesia, Haerani & Alam (2021) found that attractiveness, clarity, efficiency, accuracy, stimulation and novelty of PeduliLindungi Application still has very low scores. Based on the Technology Acceptance Model (TAM), Kurniawati et al. (2020) found that the ease of use of the PeduliLindungi application greatly influences the usability and attitude

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in using it. It means that the use of the application PeduliLindungi will increase because of the ease of use, it also indicates the level of acceptance of the application.

From the bencmark data, the result of this study shows that attractiveness, perspicuity, efficiency, stimulation, and novelty categories are below average. The Dependability category was categorized as 'bad', which means that the user's motivation to use PeduliLindungi Application is poor. This result is inline with Haerani & Alam (2021). Comparing with benchmark data, Haerani & Alam (2021) finding below the average. Therefore, this study recommended the improvements to the PeduliLindungseen Application especially in scale of accuracy that still provides information incomplete.

## VI. Conclusion

This study analyze the PeduliLindungi application using UEQ assessment. Based on the results of UEQ assessment, it is found that PeduliLindungi Application is easy to use, but for the novelty is lack of creativity. Based on other assessments of UEQ, attractiveness, efficiency, clarity, and stimulation, the PeduliLindungi application had good performance. Compare with bencmark data in the UEQ assesstment, the PeduliLindungi application is below the average.

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