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# Analysis Experience New Users of Flo App Based on Group Age with the *User Experience Questionnaire* (UEQ) Method

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#### Abstract

The advancement of digital technology has significantly driven innovation in health applications, offering users practical tools to monitor their physical and emotional well-being. Among these, Flo: Period & Pregnancy Tracker stands out as a popular application designed to help women track their reproductive cycles, ovulation, and associated hormonal symptoms. This study aims to evaluate the user experience of new users of the Flo application across two age groups: 12–25 years and 26–45 years, to understand their perceptions of comfort and ease of use, employing a quantitative approach with the User Experience Questionnaire (UEQ). Analysis results indicate that both age groups generally provided positive assessments of the application. The Stimulation and Efficiency aspects received the highest scores, while Novelty was the lowest-scoring aspect. Further analysis revealed that the 12- 25 year age group tended to prioritize hedonic qualities (such as Stimulation and Attractiveness), whereas the 26-45 year age group valued pragmatic qualities (such as Efficiency and Perspicuity) more in their initial app usage experience. These findings underscore the importance of UI/UX design that adapts to the differing needs and expectations of users across age segments for overall experience improvement. It is important to note that the imbalance in the number of respondents between age groups is a limitation of this study, which may affect the validity of peer-to-peer comparisons and the generalizability of results due to constraints in time and primary respondent data availability.

Keywords: Menstruation, Women, Apps, UEQ

# 1. INTRODUCTION

Indonesia is one of the world's largest users of *mobile applications*, with an average daily usage of more than 250 minutes [1]. *Mobile applications* are now used in various sectors, including health. One example is an application designed to support health workers in disseminating information as educational material for users, as well as personally recording and monitoring health conditions, especially aspects of reproductive health. One type of application is the menstrual calendar application, which functions as a tool for women to estimate menstrual cycles, ovulation, and fertile periods [2].

Menstruation is a natural process experienced by all women, but it can cause problems such as dysmenorrhea, breast tenderness, dizziness, or emotional disturbances. To help monitor these conditions, many young women are now using *mobile apps* that provide cycle tracking, menstrual reminders, and PMS (Premenstrual Syndrome) symptom tracking. Syndrome). Flo Health is a popular app that uses artificial intelligence to track menstrual cycles, PMS, and ovulation, and provides *personalized insights*. User experience (UX) is a crucial aspect of the app's success, especially in attracting new users and retaining the loyalty of existing users [3].

Several previous studies have evaluated the UX of various health applications using the UEQ and UEQ+ methods, including the Halodoc, JKN *Mobile*, and SATUSEHAT applications [4], [5], [6] . The results show that aspects such as efficiency, stimulation, and clarity often score high, while attractiveness *and* dependability *are* still of concern. Research on the Flo application Health using the

HEART method also shows high scores on the *Happiness* and *Task aspects*. *Success*, but the *Engagement* and *Retention aspects* still need to be improved [6] . However, most of these studies focus more on general users or old users and have not specifically highlighted the experience of new users.

Research from the journal "User Evaluation Experience Valorant Game using Enhanced Method Cognitive "New User Walkthrough" explains the evaluation of the new user experience while playing the game. Valorant uses the *Enhanced method of Cognitive Walkthrough*. The goal is to identify usability issues faced by novice players and provide solutions to improve their experience. Understanding the experience of new users is crucial because it makes it easier for them to understand, enjoy, and stay engaged with an application or game. This can increase user retention and satisfaction, helping developers improve interface design and onboarding processes to ensure new users feel comfortable and don't give up quickly [7].

Based on the background and gaps in previous research, this study aims to analyze the initial experiences of new users of the Flo app using UEQ, which effectively describes user perceptions across various UX dimensions. This includes uncovering their perceptions of ease, clarity, convenience, and attractiveness, and identifying areas for improvement to enhance UX quality. These findings are expected to contribute to the development of more user-friendly health app designs for new users.

#### 2. RESEARCH METHODS

This study uses a methodology that consists of some stages, starting from studies literature, data collection, data transformation, data exploration, to analysis results. The overall flow of the process can be seen in the flowchart shown in Figure 1 below.

# Tahapan Penelitian



Figure 1. Stages Study

# 2.1 Literature Study

Literature study is done as a method of data collection to examine theories and results previously relevant to the topic study [8]. The purpose of studies is to gain runway strong theoretical foundation in support of the implementation study as well as identify gaps or direction for new research from previous studies [9].

Various studies show the effectiveness UEQ method in analyzing experienced users of digital applications. UEQ is capable of measuring six main aspects in experienced users , namely : power attractiveness , clarity ( perspicuity ) , efficiency ( efficiency ) , dependability ( dependability ), stimulation ( stimulation ), and novelty [ 10 ] . ADDIN CSL\_CITATION {"citationItems":[{"id": "ITEM-1", "itemData":{"DOI": "10.37641/jabkes.v4i1.2529", "abstract": "Digital wallet is an application that resides on a smartphone that can be used for transactions without using cash. Referring to a survey conducted by Global Consumer Insight (PwC, 2019), "Along with the growing number of active mobile internet users in Indonesia, the number of mobile payment users has also experienced growth." One of the factors that influences user interest in continuing to use an application is the user's perception or experience. The purpose of this research is to determine the level of user experience aspects in the current X digital wallet, as well as to determine aspects of the user experience that need to be improved using the User Experience Questionnaire (UEQ). "The population of this research is X digital wallet users using a simple random sampling technique. Data

analysis was performed using the UEQ Data Analysis Tool. The results of this study showed that the perspicuity aspect got a value of 1.25 or above average. The attractiveness, efficiency, dependability, stimulation, and novelty aspects respectively scored 0.90, 1.01, 0.80, 0.89, and 0.52 or below average." The recommendations in this study are expected to become one of the considerations for X digital wallet stakeholders to improve the X user experience.\r Keywords: Digital Wallet, User Tool", "author": [{ "dropping-Experience, UEQ, **UEQ** Data **Analysis** particle":"","family":"Hermawan","given":"Yanto","non-dropping-particle":"","parsenames":false,"suffix":""},{"dropping-particle":"","family":"Pratama","given":"Pebi Paisal","nondropping-particle":"","parse-names":false,"suffix":""}],"container-title":"Jurnal Aplikasi Bisnis Kesatuan", "id": "ITEM-1", "issue": "1", "issued": {"date-parts": [["2024"]]}, "page": "1-8", "title": "Analisis Pengalaman Pengguna Pada Aplikasi Dompet Digital X Menggunakan User Experience Questionnaire", "type": "articlejournal","volume":"4"},"uris":["http://www.mendeley.com/documents/?uuid=b6d59d76-1beb-4761-a177-

c9db273751a4"]}],"mendeley":{"formattedCitation":"[10]","plainTextFormattedCitation":"[10]","previouslyFormattedCitation":"[10]"},"properties":{"noteIndex":0},"schema":"https://github.com/citation-style-language/schema/raw/master/csl-citation.json"}This tool Lots used in evaluation mobile application Because concise presentation However covers dimensions emotional and functional users [11], [12]. Therefore, the UEQ method is assessed as relevant and appropriate for use in evaluating experienced users new to the Flo application [13].

Previous studies have researched the influence of age on the perception of users in using digital applications using the UEQ method. Research by Nurfaldini *et al.* (2024) found that different demographics, including age, can influence users 'efficiency and stimulation in using mobile applications [14]. In addition, Nooriza (2022) found that different age also affects the perception of convenience use and stimulation in mobile applications, so that analysis based on group age becomes important for understanding preferences and needs of users in a more specific way [15]. Therefore, conducting an analysis experience based on group age becomes important to identify differences in perception and preferences of new users. The purpose of the study is in harmony with the approach, namely, to analyze the experience of users new to Flo App: Period & Pregnancy Calendar, by comparing two groups of users, namely, 12–25 years and 26–45 years, with the use UEQ method.

#### 2.2 Data Collection

In this research, the data collection process is carried out using the UEQ instrument, namely a questionnaire designed standards For evaluate the experience of users new to something product or system. UEQ consists of 26 pairs of opposite words , such as " no " fun-fun ", " no can predictable predictable ", " creative-monotonous ", and so on, as can be seen in Figure 2. Each item is assessed using a Likert scale with a range marked from 1 to 7. In the UEQ, there are 6 scales of evaluation, including [16]:

- 1. Attractiveness (Attractiveness), Measuring the level of interest users to system in the system overall, reflecting whether users feel happy and like the experience during use application.
- 2. *Perspicuity* ( Clarity ) measures how clear and easy to understand the system is for the user, whether easy or difficult to understand.
- 3. *Efficiency* (Efficiency), measuring how effectively the system helps users finish tasks quickly and practically, is it? System, the efficient or not, hurry up or slow down.
- 4. *Dependability* (Reliability), measuring how much can reliable system in give control to users to interact, whether the system can predict, or does not support, or precisely hinder.
- 5. *Stimulation* (Stimulation / Motivation), measuring how much a capable system motivates the user, whether the system felt beneficial or not useful, interesting, or boring.
- 6. *Novelty* ( Newness ), measuring how much a creative and innovative system said, whether the system felt creative or not, conservative or innovative.

|                      |   |   |   |   |   |   |   |                           | _ |
|----------------------|---|---|---|---|---|---|---|---------------------------|---|
|                      | 1 | 2 | 3 | 4 | 5 | 6 | 7 |                           |   |
| menyusahkan          | 0 | 0 | 0 | 0 | 0 | 0 | 0 | menyenangkan              |   |
| tak dapat dipahami   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | dapat dipahami            |   |
| kreatif              | 0 | 0 | 0 | 0 | 0 | 0 | 0 | monoton                   |   |
| mudah dipelajari     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | sulit dipelajari          |   |
| bermanfaat           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | kurang bermanfaat         |   |
| membosankan          | 0 | 0 | 0 | 0 | 0 | 0 | 0 | mengasyikkan              |   |
| tidak menarik        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | menarik                   |   |
| tak dapat diprediksi | 0 | 0 | 0 | 0 | 0 | 0 | 0 | dapat diprediksi          |   |
| cepat                | 0 | 0 | 0 | 0 | 0 | 0 | 0 | lambat                    |   |
| berdaya cipta        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | konvensional              |   |
| menghalangi          | 0 | 0 | 0 | 0 | 0 | 0 | 0 | mendukung                 |   |
| baik                 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | buruk                     |   |
| rumit                | 0 | 0 | 0 | 0 | 0 | 0 | 0 | sederhana                 |   |
| tidak disukai        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | menggembirakan            |   |
| lazim                | 0 | 0 | 0 | 0 | 0 | 0 | 0 | terdepan                  |   |
| tidak nyaman         | 0 | 0 | 0 | 0 | 0 | 0 | 0 | nyaman                    |   |
| aman                 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | tidak aman                |   |
| memotivasi           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | tidak memotivasi          |   |
| memenuhi ekspektasi  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | tidak memenuhi ekspektasi |   |
| tidak efisien        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | efisien                   |   |
| ielas                | 0 | 0 | 0 | 0 | 0 | 0 | 0 | membingungkan             |   |
| tidak praktis        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | praktis                   |   |
| terorganisasi        |   | 0 | 0 | 0 | 0 | 0 | 0 | berantakan                |   |
| atraktif             |   | 0 | 0 | 0 | 0 | 0 | 0 | tidak atraktif            |   |
| ramah pengguna       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | tidak ramah pengguna      |   |
| konservatif          | 0 | 0 | 0 | 0 | 0 | 0 | 0 | inovatif                  |   |
| Konservatii          | 0 | 0 | 0 | 0 | U | 0 | U | movatii                   |   |

Figure 2. UEQ instrument

Source image: https://www.ueq-online.org/

# 2.3 Data Transformation

In the data transformation process, the scale assessment on the original UEQ questionnaire is in the range of 1 to 7, converted become a new scale between -3 to +3. A score of -3 represents the most negative answer, while a score of +3 reflects the most positive answer. Transformation, this also works for evaluating the consistency of respondents in answers; indicated data not consistent will be removed for the sake of maintaining the validity of the results study.

## 2.4 Data Exploration

After the stage process, data transformation is carried out, the data that has been through stage cleaning is then explored more carry on For identify patterns as well as characteristics it has. Stages of exploration. This covers analysis, statistics, descriptive, and visual data, such as histograms and bar charts. This step aims to see data distribution, potential outliers, relationships between variables, as well as dig into the information at the beginning that can support the analysis process next.

#### 2.5 Analysis of Results

At the stage of analysis results, the process begins with a count score for every UEQ scale, which includes various aspects of user experience. After that, done analysis is done to compare the results between groups of different ages. Then, it was carried out to compare the results obtained with the standard or applications similar in the market. Finally, the results This analyzed and interpreted to give a comprehensive description of satisfaction and provide an outlook for further repair more carry on

#### 3. RESULTS AND DISCUSSION

### 3.1 Sample Data

Figure 3 shows the result data distribution questionnaire, where the data was obtained as many as 119 respondents with a range of varying ages. The majority are aged 12–25 years, as many as 90 respondents (75.6%), followed by those aged 26–45 years, as many as 22 respondents (18.5%), and the rest aged 46–65 years. Research This focused on a comparison between two groups of age groups,

namely 12–25 years and 26–45 years, with a total of 112 respondents. It is noted that an imbalanced amount of data between group ages can directly influence validity comparison in a way, and become one of the limitations study, due to limited time and the number of respondents.

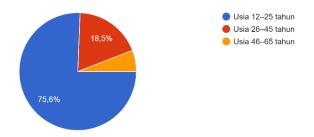


Figure 3. Graph distribution of respondents based on age

Table 1. Distribution of Data Results Questionnaire Ages 12-25

|   |   |   |   |   |   |   |   |   |    |    |    | lt | ems |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14  | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 3 | 4 | 1 | 3 | 1 | 3 | 4 | 3 | 4 | 3  | 5  | 1  | 2  | 3   | 3  | 4  | 2  | 2  | 2  | 4  | 3  | 5  | 2  | 3  | 2  | 3  |
| 4 | 4 | 4 | 4 | 4 | 4 | 3 | 4 | 4 | 4  | 4  | 4  | 4  | 4   | 4  | 3  | 4  | 4  | 4  | 4  | 3  | 4  | 4  | 4  | 4  | 4  |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5  | 5  | 5  | 5  | 5   | 4  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 4  |
| 4 | 4 | 2 | 2 | 1 | 4 | 5 | 4 | 2 | 2  | 5  | 1  | 4  | 5   | 4  | 4  | 2  | 2  | 2  | 4  | 1  | 4  | 4  | 2  | 2  | 4  |
| 5 | 4 | 3 | 5 | 2 | 5 | 5 | 4 | 4 | 3  | 4  | 3  | 4  | 3   | 3  | 5  | 4  | 2  | 2  | 4  | 4  | 4  | 4  | 3  | 2  | 4  |
| 7 | 7 | 1 | 1 | 1 | 7 | 7 | 7 | 1 | 7  | 7  | 1  | 7  | 7   | 7  | 7  | 1  | 1  | 1  | 7  | 1  | 7  | 1  | 1  | 1  | 7  |
| 3 | 5 | 2 | 5 | 3 | 4 | 5 | 5 | 3 | 4  | 4  | 4  | 5  | 4   | 5  | 7  | 3  | 4  | 4  | 5  | 5  | 4  | 2  | 4  | 6  | 3  |
| 6 | 7 | 2 | 2 | 1 | 7 | 7 | 7 | 1 | 3  | 7  | 2  | 5  | 6   | 6  | 7  | 1  | 1  | 1  | 6  | 2  | 6  | 1  | 1  | 1  | 7  |
| 4 | 4 | 4 | 4 | 5 | 4 | 4 | 4 | 4 | 4  | 4  | 4  | 4  | 4   | 4  | 4  | 4  | 3  | 3  | 4  | 5  | 4  | 4  | 4  | 4  | 4  |
| 5 | 6 | 2 | 2 | 2 | 5 | 6 | 6 | 2 | 2  | 6  | 2  | 6  | 6   | 6  | 6  | 2  | 2  | 2  | 6  | 2  | 6  | 2  | 2  | 2  | 6  |

Table 2. Distribution of Data Results Questionnaire Age 26-45

|   |   |   |   |   |   |   |   |   |    |    |    | lt | ems |    |    |    |    |    |    |    |    |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14  | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 6 | 6 | 1 | 1 | 1 | 6 | 7 | 6 | 2 | 6  | 6  | 1  | 6  | 6   | 6  | 6  | 2  | 2  | 2  | 6  | 2  | 6  | 2  | 1  | 1  | 6  |
| 5 | 5 | 2 | 5 | 2 | 4 | 6 | 6 | 3 | 2  | 5  | 2  | 5  | 5   | 6  | 5  | 2  | 2  | 2  | 6  | 2  | 6  | 2  | 2  | 2  | 6  |
| 7 | 7 | 6 | 1 | 1 | 7 | 7 | 2 | 1 | 7  | 2  | 1  | 7  | 4   | 1  | 7  | 7  | 7  | 7  | 7  | 1  | 7  | 6  | 7  | 1  | 7  |
| 6 | 7 | 2 | 2 | 1 | 6 | 7 | 6 | 2 | 3  | 6  | 1  | 6  | 6   | 5  | 6  | 6  | 1  | 2  | 2  | 1  | 1  | 1  | 3  | 1  | 6  |
| 6 | 6 | 2 | 2 | 2 | 6 | 6 | 6 | 1 | 6  | 6  | 1  | 7  | 6   | 6  | 6  | 2  | 2  | 2  | 6  | 1  | 6  | 2  | 2  | 1  | 2  |
| 4 | 3 | 5 | 4 | 3 | 3 | 4 | 6 | 2 | 3  | 5  | 3  | 3  | 4   | 4  | 3  | 4  | 2  | 4  | 5  | 5  | 5  | 4  | 4  | 4  | 4  |
| 4 | 6 | 5 | 6 | 4 | 6 | 5 | 6 | 3 | 4  | 6  | 2  | 5  | 5   | 3  | 6  | 2  | 3  | 3  | 5  | 6  | 7  | 4  | 4  | 6  | 3  |
| 3 | 3 | 4 | 7 | 3 | 6 | 6 | 3 | 1 | 3  | 4  | 2  | 4  | 5   | 4  | 6  | 4  | 3  | 2  | 5  | 3  | 7  | 5  | 3  | 2  | 3  |
| 6 | 7 | 2 | 2 | 1 | 6 | 7 | 6 | 1 | 4  | 7  | 1  | 6  | 6   | 5  | 7  | 2  | 2  | 2  | 7  | 2  | 7  | 1  | 2  | 1  | 6  |
| 7 | 6 | 1 | 1 | 1 | 7 | 7 | 5 | 2 | 2  | 5  | 1  | 6  | 6   | 3  | 7  | 4  | 1  | 5  | 7  | 2  | 7  | 2  | 1  | 2  | 6  |

#### 3.2 Data Transformation

Filling results UEQ questionnaire from two groups of ages (12-25 years and 26-45 years) show that the majority of respondents give a positive evaluation to the Flo application, especially in the aspects of convenience for users, speed, and the appearance interface. Dominant value is in the range of 1 to 3, indicating experienced enough users. Good in a general way. Although there is part small negative evaluation (up to -3), the amount is not significant. However, with this, the thing This still becomes an important indicator that there are certain things that need to be evaluated more carry on.

In a way, overall, the Flo app has succeeded in giving a positive experience to users for a large part of respondents from various ages, although there is still room for improvement to improve the quality of interaction with users comprehensively.

# 3.3 Calculation of Mean, Variance, and Standard Deviation

After the stages transformation, data is analyzed in a way quantitatively by calculating the average (*mean*), variance, and standard deviation. The results of the calculation are presented in Figures 4 and 5 below. This For describes the distribution and trends of data in general statistics.

| Item | Mean         | Variance | Std. Dev. | No. | Left               | Right                      | Scale          |
|------|--------------|----------|-----------|-----|--------------------|----------------------------|----------------|
| 1    | <b>1,3</b>   | 2,4      | 1,5       | 90  | annoying           | enjoyable                  | Attractiveness |
| 2    | <b>1,4</b>   | 2,2      | 1,5       | 90  | not understandable | understandable             | Perspicuity    |
| 3    | <b>P</b> 1,5 | 2,0      | 1,4       | 90  | creative           | dull                       | Novelty        |
| 4    | <b>№</b> 0,9 | 3,1      | 1,8       | 90  | easy to learn      | difficult to learn         | Perspicuity    |
| 5    | <b>1,6</b>   | 2,0      | 1,4       | 90  | valuable           | inferior                   | Stimulation    |
| 6    | <b>1,3</b>   | 2,1      | 1,4       | 90  | boring             | exciting                   | Stimulation    |
| 7    | <b>1,6</b>   | 1,8      | 1,3       | 90  | not interesting    | interesting                | Stimulation    |
| 8    | <b>1,2</b>   | 1,8      | 1,4       | 90  | unpredictable      | predictable                | Dependability  |
| 9    | <b>1,5</b>   | 2,1      | 1,5       | 90  | fast               | slow                       | Efficiency     |
| 10   | - 0,7 →      | 2,2      | 1,5       | 90  | inventive          | conventional               | Novelty        |
| 11   | <b>1,6</b>   | 1,5      | 1,2       | 90  | obstructive        | supportive                 | Dependability  |
| 12   | <b>1,5</b>   | 2,6      | 1,6       | 90  | good               | bad                        | Attractiveness |
| 13   | <b>P</b> 1,1 | 2,5      | 1,6       | 90  | complicated        | easy                       | Perspicuity    |
| 14   | <b>1,3</b>   | 1,9      | 1,4       | 90  | unlikable          | pleasing                   | Attractiveness |
| 15   | <b>@</b> 0,9 | 1,9      | 1,4       | 90  | usual              | leading edge               | Novelty        |
| 16   | <b>1,4</b>   | 2,1      | 1,5       | 90  | unpleasant         | pleasant                   | Attractiveness |
| 17   | <b>1,3</b>   | 2,2      | 1,5       | 90  | secure             | not secure                 | Dependability  |
| 18   | <b>1,7</b>   | 1,9      | 1,4       | 90  | motivating         | demotivating               | Stimulation    |
| 19   | <b>1,3</b>   | 1,9      | 1,4       | 90  | meets expectations | does not meet expectations | Dependability  |
| 20   | <b>1,4</b>   | 2,1      | 1,5       | 90  | inefficient        | efficient                  | Efficiency     |
| 21   | <b>1,2</b>   | 2,5      | 1,6       | 90  | clear              | confusing                  | Perspicuity    |
| 22   | <b>1,6</b>   | 2,3      | 1,5       | 90  | impractical        | practical                  | Efficiency     |
| 23   | <b>1,2</b>   | 2,6      | 1,6       | 90  | organized          | cluttered                  | Efficiency     |
| 24   | <b>1,4</b>   | 1,9      | 1,4       | 90  | attractive         | unattractive               | Attractiveness |
| 25   | <b>1,2</b>   | 3,1      | 1,8       | 90  | friendly           | unfriendly                 | Attractiveness |
| 26   | <b>1,0</b>   | 2,3      | 1,5       | 90  | conservative       | innovative                 | Novelty        |

Figure 4. Average (Mean), Variance, and Standard Deviation For Ages 12-25

| Item | Mean         | Variance | Std. Dev. | No. | Left               | Right                      | Scale          |  |
|------|--------------|----------|-----------|-----|--------------------|----------------------------|----------------|--|
| 1    | <b>P</b> 1,4 | 1,7      | 1,3       | 22  | annoying           | enjoyable                  | Attractiveness |  |
| 2    | <b>P</b> 1,7 | 1,5      | 1,2       | 22  | not understandable | understandable             | Perspicuity    |  |
| 3    | <b>1,0</b>   | 2,0      | 1,4       | 22  | creative           | dull                       | Novelty        |  |
| 4    | <b>№</b> 0,9 | 3,0      | 1,7       | 22  | easy to learn      | difficult to learn         | Perspicuity    |  |
| 5    | <b>P</b> 2,0 | 1,1      | 1,0       | 22  | valuable           | inferior                   | Stimulation    |  |
| 6    | <b>1,5</b>   | 1,4      | 1,2       | 22  | boring             | exciting                   | Stimulation    |  |
| 7    | <b>1,5</b>   | 1,5      | 1,2       | 22  | not interesting    | interesting                | Stimulation    |  |
| 8    | <b>1,5</b>   | 2,0      | 1,4       | 22  | unpredictable      | predictable                | Dependability  |  |
| 9    | <b>1,9</b>   | 0,9      | 0,9       | 22  | fast               | slow                       | Efficiency     |  |
| 10   | - 0,3        | 1,8      | 1,4       | 22  | inventive          | conventional               | Novelty        |  |
| 11   | <b>1,5</b>   | 1,5      | 1,2       | 22  | obstructive        | supportive                 | Dependability  |  |
| 12   | <b>1,9</b>   | 1,3      | 1,2       | 22  | good               | bad                        | Attractiveness |  |
| 13   | <b>1,7</b>   | 1,6      | 1,2       | 22  | complicated        | easy                       | Perspicuity    |  |
| 14   | <b>1,0</b>   | 1,0      | 1,0       | 22  | unlikable          | pleasing                   | Attractiveness |  |
| 15   | <b>1,1</b>   | 2,1      | 1,4       | 22  | usual              | leading edge               | Novelty        |  |
| 16   | <b>1,8</b>   | 1,2      | 1,1       | 22  | unpleasant         | pleasant                   | Attractiveness |  |
| 17   | <b>1,3</b>   | 2,5      | 1,6       | 22  | secure             | not secure                 | Dependability  |  |
| 18   | <b>1,7</b>   | 1,8      | 1,4       | 22  | motivating         | demotivating               | Stimulation    |  |
| 19   | <b>1,4</b>   | 2,1      | 1,4       | 22  | meets expectations | does not meet expectations | Dependability  |  |
| 20   | <b>1,4</b>   | 1,5      | 1,2       | 22  | inefficient        | efficient                  | Efficiency     |  |
| 21   | <b>1,8</b>   | 2,0      | 1,4       | 22  | clear              | confusing                  | Perspicuity    |  |
| 22   | <b>1,6</b>   | 2,0      | 1,4       | 22  | impractical        | practical                  | Efficiency     |  |
| 23   | <b>1,2</b>   | 1,9      | 1,4       | 22  | organized          | cluttered                  | Efficiency     |  |
| 24   | <b>1,0</b>   | 1,8      | 1,3       | 22  | attractive         | unattractive               | Attractiveness |  |
| 25   | <b>1,5</b>   | 1,7      | 1,3       | 22  | friendly           | unfriendly                 | Attractiveness |  |
| 26   | <b>1,5</b>   | 2,1      | 1,4       | 22  | conservative       | innovative                 | Novelty        |  |

Figure 5. Mean, Variance, and Standard Deviation for Age 26-45

Figure 4 and Figure 5 show the comparison mean value of each UEQ item based on two age groups, namely 12–25 years and 26–45 years. In general, both show a positive perception of the application.

Group ages 12–25 years gave high scores in aspects emotional and aesthetic, like *pleasant-unpleasant*, *valuable-inferior*, and *enjoyable-annoying*, indicating the application felt fun and motivating. However, the aspects *novelty* like *predictable-unpredictable* and *inventive-conventional* get score more low, indicating hope for innovation. On the other hand, the group aged 26–45 years more emphasizes functional, with scores high on *fast-slow*, *secure-not secure*, and *supportive-obstructive*. Aspects like *understandable* and *meet expectations* also get positive evaluation, reflecting the need will clarity and reliability. However, as the group gets younger, scores on aspects of *novelty* are still low.

The second group agreed that side innovation is still not enough to stand out. Therefore, the development application needs to be directed at improving creativity and elements of surprise for experienced users more interesting and varied.

# 3.4 UEQ Data Analysis

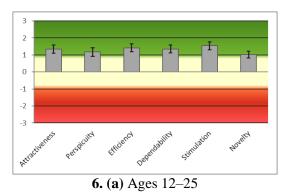
After there is calculation of mean, variance, and standard deviation, grouped again for the average UEQ scale in table form (tables 3 and 4) and displayed as a bar chart for each group age as in figures 6a and 6b.

Table 3. Mean and Variance Results for Ages 12-25

| UEQ Scales (Mean and Variance) |       |      |  |  |  |  |  |
|--------------------------------|-------|------|--|--|--|--|--|
| Attractiveness                 | 1,335 | 1.40 |  |  |  |  |  |
| Perspicuity                    | 1,169 | 1.50 |  |  |  |  |  |
| Efficiency                     | 1,419 | 1.22 |  |  |  |  |  |
| Dependability                  | 1,353 | 1.17 |  |  |  |  |  |
| Stimulation                    | 1,539 | 1.22 |  |  |  |  |  |
| Novelty                        | 1,019 | 0.85 |  |  |  |  |  |

Table 4. Mean and Variance Results for Ages 26-45

| UEQ Scales (Mean and Variance) |       |      |  |  |  |  |  |
|--------------------------------|-------|------|--|--|--|--|--|
| Attractiveness                 | 1,439 | 0.73 |  |  |  |  |  |
| Perspicuity                    | 1,511 | 1.28 |  |  |  |  |  |
| Efficiency                     | 1,534 | 0.76 |  |  |  |  |  |
| Dependability                  | 1,432 | 1.57 |  |  |  |  |  |
| Stimulation                    | 1,670 | 0.53 |  |  |  |  |  |
| Novelty                        | 0.977 | 0.91 |  |  |  |  |  |



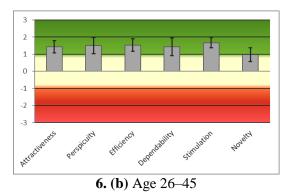


Figure 6. Bar chart results *Mean* and *Variance*: (a) Group age 12–25 years, (b) Group age 26–45 years.

Table 3, Table 4, Figures 6a and 6b show the second group's age. You're welcome to give a positive evaluation of the application. In the group age 12–25 years, *Stimulation* becomes the aspect highest value (1.53), followed by *Efficiency* (1.41) and *Attractiveness* (1.35), which indicates that young users find the application interesting, motivating, and easy to use. However, the score for the lowest novelty (1.02) indicates need will element more innovative and stronger. Meanwhile, group 26–45 year olds also rated *Stimulation* as the best aspect (1.67) with low variance, reflecting a consistent perception of the Power pull application. *Efficiency* (1.53) and *Perspicuity* (1.51) also show that the system is considered efficient and sufficiently easy to understand. Thus, *Novelty* return becomes the aspect lowest value (0.98), and *Dependability* has a high variance, indicating inconsistency in the perception of the reliability system.

In a way, overall, both groups evaluate the system positively, with superiority main aspects being emotional and efficiency. However, the low score *Novelty* becomes a signal that the improvement side of innovation and differentiation is important for development at the forefront.

Next, the aspect quality pragmatic and hedonistic is explained in a detailed way in Tables 5 and 6, as well as visualized with the bar charts shown in Figures 7a and 7b.

Table 5. Evaluation Results Quality *Pragmatic* and *Hedonic* Ages 12-25

| Pragmatic and Hedonic Quality |      |  |  |  |  |  |
|-------------------------------|------|--|--|--|--|--|
| Attractiveness                | 1.34 |  |  |  |  |  |
| Pragmatic Quality             | 1.31 |  |  |  |  |  |
| Hedonic Quality               | 1.28 |  |  |  |  |  |

Table 6. Evaluation Results Quality Pragmatic and Hedonic Age 26-45

| Pragmatic and Hedonic Quality |      |  |  |  |  |  |
|-------------------------------|------|--|--|--|--|--|
| Attractiveness                | 1.44 |  |  |  |  |  |
| Pragmatic Quality             | 1.49 |  |  |  |  |  |
| Hedonic Quality               | 1.32 |  |  |  |  |  |

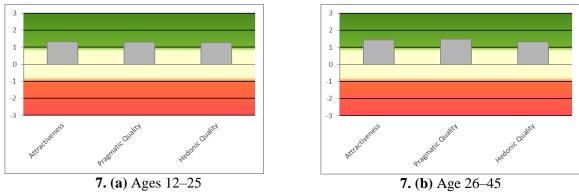


Figure 7. Bar chart results quality *Pragmatic* and *Hedonic*: (a) Group age 12–25 years, (b) Group age 26–45 years.

Based on Table 5 and Figure 7a, group ages 12–25 years give a positive response to the application, with scores *Attractiveness* (1.34), *Pragmatic Quality* (1.31), and *Hedonic Quality* (1.28). This shows that young users evaluate an application. This is attractive, functional, and provides a pleasant experience emotionally, though not stand out in a way outside the usual. Meanwhile, the group aged 26–45 years (Table 6 and Figure 7b) recorded a higher score: *Attractiveness* (1.44), *Pragmatic Quality* (1.49), and *Hedonic Quality* (1.32). This means that users not only evaluate the appearance application as interesting, but also feel the application is very functional and still pleasant to use.

In a way, the second group age shows a positive perception, with the difference lying in the emphasis aspect more *pragmatic*), usability is high in the group of adults. These are strong findings that the application already fulfills basic, but can be improved from side novelty and power pull emotional, especially for young users.

For comparison second group's age the counted in benchmark results, such as Table 7 and Table 8, are each is visualized in the shape of a bar chart, seen in Figures 8 and 9.

| Scale          | Mean | Comparison to the benchmark | Interpretation                              |
|----------------|------|-----------------------------|---|
| Attractiveness | 1.34 | Above average               | 25% of results better, 50% of results worse |
| Perspicuity    | 1.17 | Below Average               | 50% of results better, 25% of results worse |
| Efficiency     | 1.42 | Above Average               | 25% of results better, 50% of results worse |
| Dependability  | 1.35 | Above Average               | 25% of results better, 50% of results worse |
| Stimulation    | 1.54 | Good                        | 10% of results better, 75% of results worse |
| Novelty        | 1.02 | Above Average               | 25% of results better, 50% of results worse |

Table 7. Benchmark Result Data Ages 12-25

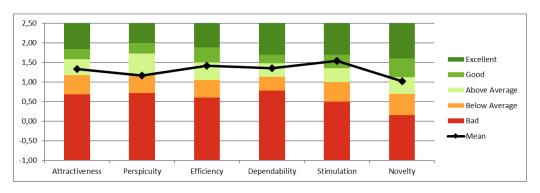


Figure 8. Graph UEQ Benchmark Ages 12-25

Table 8. Benchmark Result Data Age 26-45

| Scale          | Mean | Comparison to benchmark | the | Interpretation                              |
|----------------|------|-------------------------|-----|---|
| Attractiveness | 1.44 | Above average           |     | 25% of results better, 50% of results worse |
| Perspicuity    | 1.51 | Above Average           |     | 25% of results better, 50% of results worse |
| Efficiency     | 1.53 | Good                    |     | 10% of results better, 75% of results worse |
| Dependability  | 1.43 | Above Average           |     | 25% of results better, 50% of results worse |
| Stimulation    | 1.67 | Good                    |     | 10% of results better, 75% of results worse |
| Novelty        | 0.98 | Above Average           |     | 25% of results better, 50% of results worse |

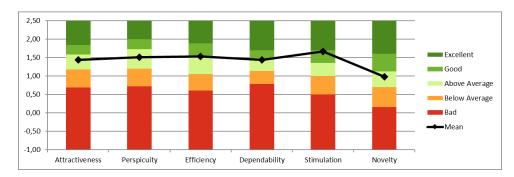


Figure 9. Graph UEQ Benchmark Age 26-45

Based on the results evaluations shown in Table 7 and Figure 8 for the group aged 12–25 years, it can be known that four of the six aspects UEQ assessment obtained average scores classified as in the "Above Average" category, ie, Attractiveness (1.34), Efficiency (1.42), Dependability (1.35), and Novelty (1.02). This shows that perception users are young to the product. Enough positive, where the scores are at 25% of the results, more benchmarks are good, equal to 50% results, and only 25% more bad. Meanwhile, that aspect Stimulation gets a score of 1.54 in the entered category "Good", indicating that the experience product is liked by the majority of users, with only 10% results benchmarking that has performance more high and 75% others more low. The only aspect that is classified as "Below Average" is Perspicuity (1.17), which means understanding to use the product is still below average, with 50% results benchmarking more good and 25% more bad. The visualization in Figure 8 shows a positive trend, where the average line of the aspects is above the top threshold green, except in the aspect of Perspicuity, approaching the yellow zone.

Temporarily, the results shown in Table 8 and Figure 9 for group age 26–45 years show improvement in perception in a comprehensive way. Aspect *Attractiveness* (1.44), *Perspicuity* (1.51), *Dependability* (1.43), and *Novelty* (0.98) all enter the "*Above Average*" category, showing that the product is viewed as interesting, easy to understand, reliable, and sufficiently give impression novel for adult users. Even two aspects, namely *Efficiency* (1.53) and *Stimulation* (1.67), are in the "*Good*" category, which means experience in efficiency and pleasure using the product already exceeds the majority *benchmark*. Figure 9 reinforces that with consistent average line visualization is in the green zone, illustrating that experienced users in the group age This more optimal than the group age more younger.

#### 4. CONCLUSION

Based on the study, use the UEQ method to analyze the experience of users new to the Flo app: Menstrual Calendar & Pregnancy in two age groups, namely 12–25 years and 26–45 years. The UEQ method was chosen because capable of measuring experienced users from a pragmatic and hedonistic perspective in a quantitative way, as well as providing a rejection measure ( *benchmark* ), which makes it easier to interpret. Analysis results show that the second group's age gives a positive evaluation of the

application, with aspects *Stimulation* and *Efficiency* getting the highest score, while *Novelty* becomes the aspect with the lowest score for both.

Different experienced users new seen a clear difference between group age. Group ages 12–25 years show more preferences strong to aspect hedonistic aspects like *Stimulation* and *Attractiveness*, which reflect a need will a fun, engaging, and stimulating application interest. On the other hand, the group aged 26–45 years places more value on quality pragmatic aspects like *Efficiency* and *Perspicuity*, which reflect a focus on convenient use and clarity of information. Differences This shows that experienced users new influenced by the different needs and expectations of each age group, where the user young users look for emotional involvement, whereas users mature more emphasis on functionality in use beginning application.

An imbalance amount respondents between the second group, with the domination group aged 12–25 years, becomes one of the limitations in this study. This matter can influence validity comparison between group in a way peer *-to-* peer, especially in the context of generalization results analysis. Findings. This can be made into a reference for further development, and more can continue to increase the quality experience, in particular, based on age segmentation.

#### 5. SUGGESTION

Based on the findings study here, there are a number of recommendations that can be made as a reference for further development more continuation. One of the main limitations indicated is an imbalance amount respondents between group age groups, which can influence the validity comparison perspective in a peer-to-peer way. Therefore, it is recommended to involve more respondents in the research next. In addition, considering variable additions like background behind education or the level of intensity of use application can give more comprehensive results. Evaluation methods can also be expanded by considering approaches other than, such as *System Usability Scale* (SUS), *Net Promoter Score* (NPS), or qualitative like interviews. Approach this aim to get more insight in-depth and comprehensive about the experience of users with the application.

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