Implementation of End User Computing Satisfaction of *Sayang Bunda* Application

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Abstract: *Sayang Bunda* application is an application developed by the Semarang Health Office with the aim of preventing (reducing) maternal and infant mortality. This application contains several features; there are assistance, consultation, information on the nearest health facility, pregnancy articles, an estimated day of birth calculator so that this application serves the handling of complaints of pregnant women by doctors or health workers in each area of the of Semarang.. To determine the level of user satisfaction of the application, End User Computing Satisfaction method is used as a measuring tool. The research study conducted in this study was a quantitative-qualitative descriptive study using a cross-sectional research design..
The results showed that on average pregnant women stated 6.9% very dissatisfied, 17.7% dissatisfied, 72.3% satisfied and 1.44% very satisfied with the *Sayang Bunda* Application that are accompanied by several inputs submitted by pregnant women as users of *Sayang Bunda* application: It is needed to facilitate the provision of modules for the use of *Sayang Bunda* application to make it easier for users to interact with the application; it is needed to make variations in coloring the *Sayang Bunda* application which can have implications of the peculiarities and characteristics of the application *Sayang Bunda* and it can be facilitated by tutorials on installing applications in smartphones

Keywords: End User Computing Satisfaction, Implementation, Pregnant women, *Sayang Bunda* Application.

INTRODUCTION.

The SAN PIISAN (*Sayangi Dampingi Ibu dan Anak Kota Semarang /* Loving and Caring for Mothers and Children in Semarang) program is a health service innovation program as a form of solution and action for caring for maternal and child health problems promotively, preventively and curatively. The Government of Semarang through the Semarang Health Office made a breakthrough in the movement of healthy mothers and children, one of which was the launch of the *Sayang Bunda* application. The use of this application is based on the *KIA Gasurkes* (Health Surveillance Officer of Child Identity Card) mentoring activity in order to make it easier for pregnant women up to the postpartum period in getting assistance (Dinas Kesehatan Kota Semarang, 2021).

Sayang Bunda application is a mobile application specifically designed for mobile platforms such as iOS, Android, or Windows mobile that can be used anytime and anywhere. The advances in technology can help processing data or information quickly, efficiently, and accurately.(Pressman, Roger S. and Maxim, 2014). *Sayang Bunda* application contains several features; those are assistance, consultation, information on the nearest health facility, pregnancy articles, calculator for the estimated day birth (*HPL*) and others so that this application makes it easier to handle complaints of pregnant women by doctors or health workers in each area of Semarang.(Gatra.Com, 2019)

Tambakaji Public Health Center Semarang as one of the work units in Semarang Health Office, there are a number of pregnant women who have used *Sayang Bunda* application. To find out to what extent the level of satisfaction of pregnant women as users of *Sayang Bunda* application in *Tambakaji* Semarang Public Health Center area of *Sayang Bunda* application, a measuring instrument is needed. One of the theories that can be used as a measuring tool for information system user satisfaction is End User Computing Satisfaction developed by Doll & Torkzadeh. There are five factors that can affect user satisfaction with the implementation of an information system. These factors include: content, accuracy, format, ease of use, and timeliness (4. Muhammad

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Rikzam Kamal, 2020)   The concept of end user computing satisfaction is evaluating thoroughly of the application based on users' experiences (Saputri & Alvin, 2020)
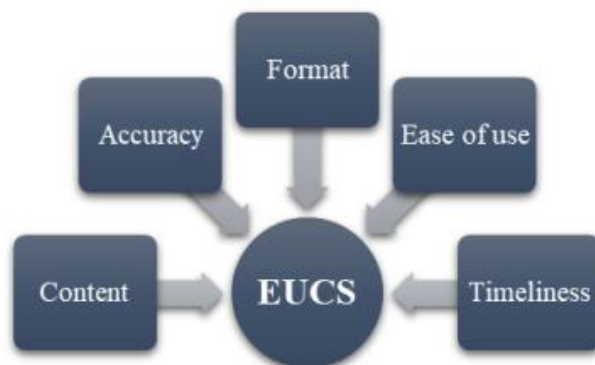

Figure 1 Method of End User Computing Satisfaction
Source : Muhammad Rikzam. (2020).

The level of users' satisfactions of the *Sayang Bunda* application becomes a reflection and representation of the quality of the application that can be used as an evaluation in order to improve health services for pregnant women. This study aims to measure the satisfaction of pregnant women as users of *Sayang Bunda* Application at Tambakaji Public Health Center based on the EUCS (End User Computing Satisfaction) method.

LITERATURE REVIEW

SAYANG BUNDA APPLICATION

Sayang Bunda application was developed by the Semarang Health Office with the aim of preventing (reducing) maternal and infant mortality. This application contains several features; those are mentoring, consultation, information on the nearest health facility, pregnancy articles, Estimated Birth Day calculator (*Hari Perkiraan Lahir*/HPL) and others so that this application facilitates the handling of complaints of pregnant women by doctors or health workers in each area of Semarang (Mukti, 2019)

Sayang Bunda application can be downloaded on the *playstore* or app store; then, users can create an account through the application. Pregnant women, postpartum mothers and babies will receive assistance (homecare) by *KIA Gasurkes* (Health Surveillance Officer of Child Identity Card) who will visit the client's house as a preventive and promotive effort to prevent high-risk pregnancies.

According to the Head of the Semarang Health Office, Moch Abdul Hakam said this application allows pregnant women to consult about their pregnancy(Gatra.Com, 2019). *Sayang Bunda* application makes it easier to handle complaints of pregnant women by doctors or health workers in each area in Semarang (Mukti, 2019).

END USER COMPUTING SATISFACTION (EUCS)

End User Computing Satisfaction (EUCS) is a method used to measure the level of satisfaction of each user of an information system by comparing expectations and reality in an information system (Muarie,M.S.,&Nopriani, 2020). The EUCS method was developed by Doll & Torkzadeh, and there are five factors that can affect users' satisfaction with the implementation of an information system (4. Muhammad Rikzam Kamal, 2020). These factors include: content, accuracy, format, ease of use, and timeliness.

METHOD

This study is a quantitative-qualitative descriptive study by using a cross-sectional research design with a population of pregnant women in the *Tambakaji* Public Health Center, Semarang. The qualitative methods are used to assist the process of identification and in-depth observation at each stage of the method in order to evaluate user satisfaction with *Sayang Bunda* application. The quantitative methods are used to evaluate and measure the satisfaction of pregnant women with the application of *Sayang Bunda* application which is the object of the study including aspects of content, accuracy, format, ease of use and timeliness through filling out the questionnaire.

The technique of collecting sampling is purposive sampling, reason for using purposive technique this sampling because it is suitable for use for quantitative research(Sugiyono., 2017); the research instruments used were questionnaire sheets and in-depth interviews. The data in this study include primary data and secondary data, the primary data in this study are questionnaires on the satisfaction of pregnant women as users of *Sayang*

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Bunda application and the results of interviews while the secondary data in this study is a literature study in the form of books and journals.

The quantitative data analysis used is descriptive statistical analysis and the qualitative data analysis used is content analysis.

RESULT

The research was carried out through filling out questionnaires and interviews with pregnant women to determine the level of user satisfaction with the use of the *Sayang Bunda* application based on the variables in EUCS (End User Computing Satisfaction). The results of research and data processing that have been carried out obtained the following results:
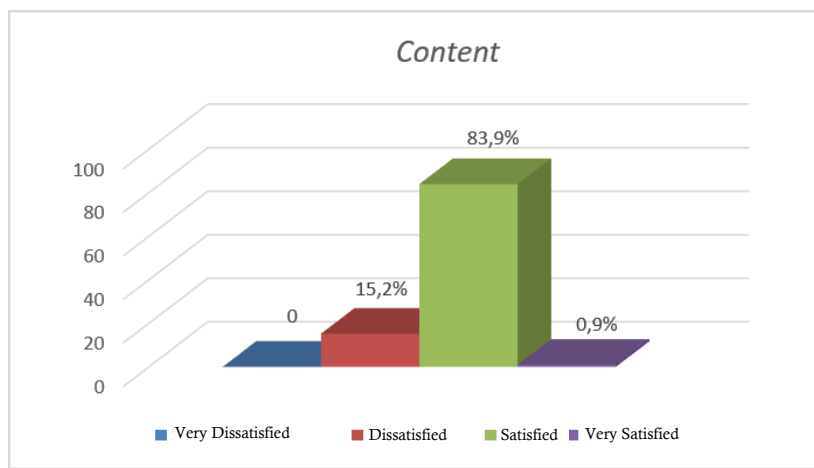
Content

Figure 2 Data Processing Results of the Content Variable Questionnaire

Based on figure 2 shows that the results of questionnaire data processing on the content variable are 0% very dissatisfied, 15.2% dissatisfied, 83.9% satisfied and 0.9% very satisfied if the content of *Sayang Bunda* application is appropriate with the needs of pregnant women, easy to understand and contains very clear and complete information. From this data it can be stated that the majority of pregnant women as users of *Sayang Bunda* application are satisfied with the content in *Sayang Bunda* Application. The content in information system must be in accordance with user needs and have the latest information(Alfiansyah et al., 2020). However, there are still some respondents who are dissatisfied with *Sayang Bunda* application related to content. Based on the results of interviews with pregnant women as users, they stated that dissatisfaction with *Sayang Bunda* application related to the content due to the absence of a module for using the application of *Sayang Bunda* application had an impact on the need for time to interact, understand and adjust to the content of *Sayang Bunda* application. Making a complete module can make it easier for pregnant women to understand and *Sayang Bunda* application as stated in(M. R. Kamal et al., 2020) which states that the application management to be better if they make a complete manual book or you can use video tutorials on YouTube.
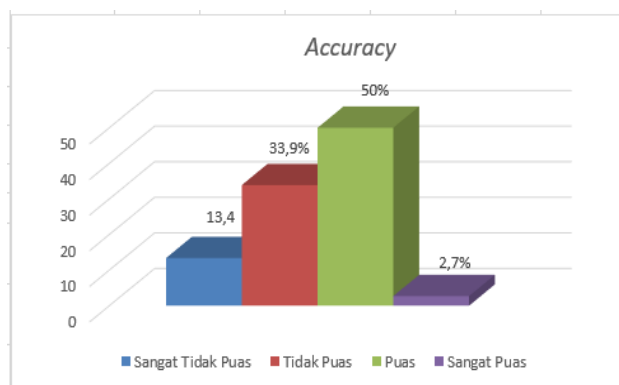
Accuracy

Figure 3 Data Processing Results of the Accuracy Variable Questionnaire

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Based on figure 3, it shows that the results of collecting the questionnaire on the accuracy variable are 13.4% very dissatisfied, 33.9% dissatisfied, 50% satisfied and 2.7% very satisfied if the accuracy in *Sayang Bunda* application shows the results are appropriate, correct and accurate. The reference (Alfiansyah et al., 2020) shows that to check the level of accuracy of a good information system (application), it can be seen from the number of errors generated while processing data.

Pregnant women as users of *Sayang Bunda* application mostly state that the accuracy of the information displayed is appropriate, correct and accurate. From the results of interviews with dissatisfied-pregnant women, several stated that network constraints often result in inaccuracies when displaying information on health facility features. The reference (Rahayu et al., 2019) states that pregnant women who live in high data are an obstacle dimension in using *Sayang Bunda* application because of poor signals. As stated in (Erawati, 2021), there are some pregnant women who can download and log in to the application but cannot use it the next day.
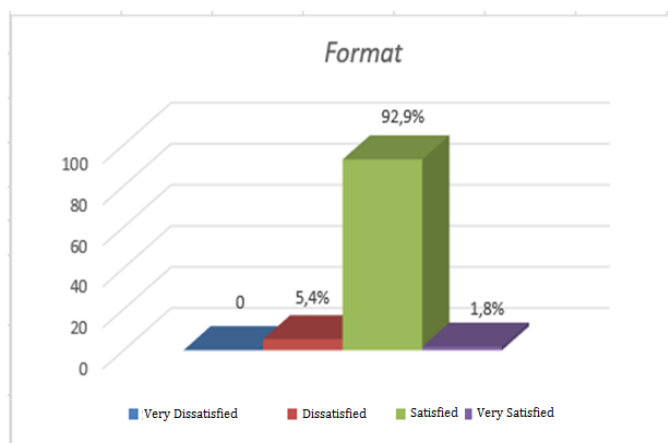
Format

Figure 4 Data Processing Results of Format Variables Questionnaires

Based on figure 4 shows that the results of processing the questionnaire on the format variable are 0% very dissatisfied, 5.4% dissatisfied, 92.9% satisfied and 1.8% very satisfied if the format in the application, *Sayang Bunda* has an attractive design, easy to understand, and not confusing in operation. Based on interviews with pregnant women who were dissatisfied with the application, some stated that the interface design for the *Sayang Bunda* application needed some variation in its coloring, which could be a characteristic or characteristic of *Sayang Bunda* application. This is in line with the results of research(Maulidiya & Sugiyono, 2021) which shows that based on the results of observations made, the appearance of the application is still less attractive, boring and less innovative, the appearance of the application is still dominated by a green background, standard icons and a simple layout. Users expect that the appearance of the application in the form of themes, colors and designs to be updated and made more attractive so that it is not boring

According to (Alfiansyah et al., 2020) an attractive format and ease of understanding and using the interface can increase end user satisfaction and can affect the level of user effectiveness.
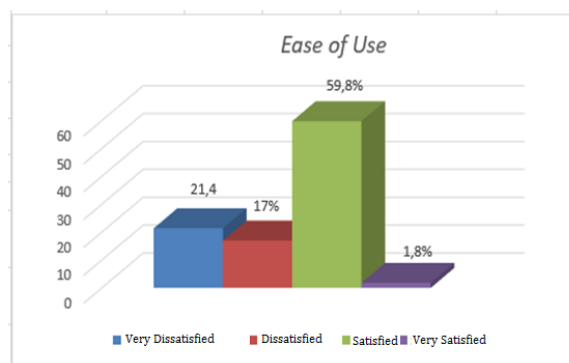
Ease of Use

Figure 5 Data Processing Results of Ease of Use Variable Questionnaire

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Based on Figure 5 shows that the results of processing the questionnaire on the ease of use variable are 21.4% very dissatisfied, 17% dissatisfied, 59.8% satisfied and 1.8% very satisfied if the ease of use on the *Sayang Bunda* application is easy to download. via smartphone, easy to access and easy to operate. From the results of interviews with pregnant women who are dissatisfied with the application, some stated that the dissatisfaction that due to regarding the ease of use of *Sayang Bunda* application was no tutorial on installing the application to a smartphone and the requirements required for installation, it is like the user must have an email. As stated in (Erawati, 2021), the fact that the system is not practical due to registration via email address and repeated application errors results in user inconvenience. The ease of use of *Sayang Bunda* application affects the interest of pregnant women to use it, as stated in (Ilmi et al., 2020), there is a direct and significant influence on the perception of ease of use *Sayang Bunda* application.
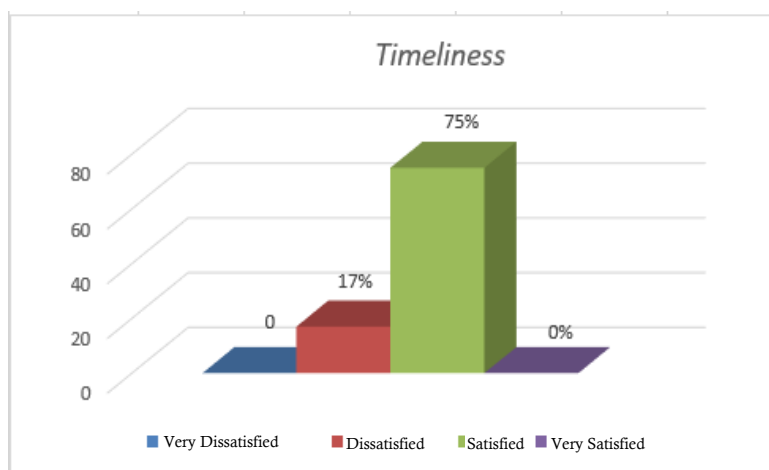
Timeliness

Figure 6 Data Processing Results of Timeliness Variable Questionnaire

Figure 6 shows that the results of processing the questionnaire on the timeliness variable are 0% very dissatisfied, 17% dissatisfied, 75% satisfied and 0% very dissatisfied when *Sayang Bunda* application provides information quickly and up to date. Signal problems that sometimes appear to be obstacles when operating *Sayang Bunda* application is in line with (M. R. Kamal et al., 2020) which states that network and internet signal dependence are obstacles in accessing information systems. Based on the results of interviews with pregnant women who are dissatisfied with *Sayang Bunda* application stated that the timeliness of the response to the location on the ambulance feature is sometimes less than optimal, especially during the peak of Covid-19.

Improving the quality of *Sayang Bunda* application is thing that needs attention in its efforts to improve health services. Reference (Arribe & Aryanto, 2022) states that it is necessary to improve the quality of the system to be more precise in providing output information in terms of timeliness so that the system can respond quickly to requests from users' application.

DISCUSSIONS

The results of the questionnaire data processing based on the End User Computing Satisfaction of *Sayang Bunda* application are shown in table 1

Table 1 Recap of the results of the EUCS, variable questionnaire data processing

End User Computing Satisfaction	Very Dissatisfied	Dissatified	Satisfied	Very Satisfied
Content	0	15,2	83,9	0,9
Accuracy	13,4	33,9	50	2,7
Format	0	5,4	92,9	1,8
Accuracy	21,4	17	59,8	1,8
Timeliness	0	17	75	0
Mean	6,9	17,7	72,32	1,44

Based on table 1, it shows that the mean of pregnant women are satisfied with *Saynag Bunda* application in terms of content, accuracy, format, ease of use, and timelines. User satisfaction describes how far users believe in an information system that is provided to meet information needs. An information system must be easy to

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2021

understand by users, attractive and can make it easier for users to find information (Saputra & Kurniadi, 2019). Reference (Alfiansyah et al., 2020) states that user satisfaction is a determinant for the successful implementation of an information system in health services. As in (Kuo et al., 2018) states that to increase user satisfaction with information systems, it is necessary to improve the quality of information systems which include information accuracy, completeness, confidentiality, easy to learn and use and timely to support information needs. However, there are still some pregnant women who are dissatisfied. This is in line with (Sugandi & Halim, 2020) which states that users are not satisfied so that the quality of the application needs to be improved to make it more useful and useful for its users.

Some of the dissatisfaction that was conveyed by pregnant women at the time of the interview that could be used as the suggestion:
a. There is no guideline book for using *Sayang Bunda* application for users, so it is necessary to facilitate the provision of it
b. There needs to be some variation in the colouring of *Sayang Bunda* application which can be a characteristic of it
c. The unavailability of a tutorial on how to install an application to a smartphone and the requirements required for installation, like pregnant women are required to have an email, make it an obstacle, especially for pregnant women who are less familiar with technology, so it is necessary to facilitate the solution of these obstacles.

CONCLUSION

The results showed that the mean of pregnant women were satisfied with *Sayang Bunda* application in part of content, accuracy, format, ease of use, and timeliness. This is based on the results of the study which showed that 6.9% very dissatisfied, 17.7% dissatisfied, 72.3% satisfied and 1.44% very satisfied. Some of the inputs submitted by pregnant women as users of *Sayang Bunda* application:1) It is necessary to facilitate the provision of guideline book for the use *Sayang Bunda* application to make it easier for users to interact with the application 2)There needs to be some variation in the colouring of *Sayang Bunda* application which can be a characteristic of it 3) The unavailability of a tutorial on how to install an application to a smartphone and the requirements required for installation, like pregnant women are required to have an email, make it an obstacle, especially for pregnant women who are less familiar with technology, so it is necessary to facilitate the solution of these obstacles. The implications of this research are 1) For Semarang Health Office Institutions as material for the development and improvement *Sayang Bunda* application in order to improve health services, especially services for pregnant women which can lead to improving the health of pregnant women, reducing maternal and child mortality 2) For pregnant women, *Sayang Bunda* application can be used as a reference application in an effort to maintain and monitor the health of the mother and baby. The limitations of existing research in this study include 1) The scope of research respondents focused only on pregnant women, while users of the *Sayang Bunda* application were not only pregnant women but also involved health workers (health surveillance officer (*gasurkes*), coordinator of midwives, integrated service post (*posyandu)* staff, etc.) 2) The scope of the research is less broad, which is only in the area of *Tambakaji* Public Health Center, Semarang.

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