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ANALYZING HOSPITAL'S MANAGEMENT INFORMATION SYSTEM BASED ON PATIENT'S AND EMPLOYEE'S PERCEPTION USING EUCS METHOD

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ABSTRACT

SIMRS is a system built to manage patient data in order to develop resources and improve hospital quality. As one of the newly implemented health support systems, the implementation of SIMRS needs to be observed. One of the indicators in the successful implementation of the system is the satisfaction of the end users of the system. User satisfaction (user satisfaction) is one indicator of the success of the development of information systems. Therefore, the research aims at analyzing the exact topic. EUCS is one of the research instruments that can be used to measure the success of information systems. In this study 5 EUCS instruments were used, namely content, accuracy, format, ease of use of users, timeliness of information systems and 3 additional variables, namely training, user satisfaction (user satisfaction)) and system benefits (net benefit). The results of this study indicate that accuracy (accuracy), format, user convenience (easy to use) timeliness of information systems (timeliness) and training (training) are proven to increase user satisfaction while content (content) has not been proven to have an effect. User satisfaction of integrated information systems has been proven to increase net benefits / organizational performance.

INTRODUCTION

The development of information technology has resulted in enormous changes in all areas of people's lives. The rapid advancement of information technology (IT) can affect almost all aspects of human life. Based on BPS data from the results of the Susenas 2021 Survey data collection, 80.90% of the Indonesian population has accessed the internet in 2021. The high use of the internet reflects the climate of information openness and public acceptance of the development of information technology is very important.

Informationtechnology also influences organizational systems to innovate in making various decisions quickly and precisely. In the application of technology, one of the efforts to improve organizational performance is carried out. The use of systems is related to the needs of information technology in the organization so that information has an important role in organizational activities and has even become a basic need of the organization. The need for information is a basic need for every company, especially in carrying out all aspects of organizational activities.

Sulit to take care of a hospital administration. Many parties complain about the performance of a hospital, queues in picking up numbers for patients, and many files to be brought, difficulty in finding a place to wait for patients, and various other aspects. The old system in this hospital made a lot of time wasted and very inefficient, therefore the hospital took advantage of the development of technology and information.

One of the efforts made by organizations to improve organizational performance is to create an information system that can provide resources for organizational information needs. Hospital information system (SIMRS) is an order related to data collection, data processing, information presentation, data analysis and inference of information as well as the delivery of information needed for hospital activities. Evaluation of an information system is also a real effort to find out the true condition of an information system implementation.

The purpose of this study was to find out how to evaluate the hospital management information system (SIMRS) instruments in the study used were interview guidelines, stationery recording devices and cameras. As one of the newly implemented systems in the health sector, success in the implementation of SIMRS needs to be observed. One of the indicators in the successful implementation of the system is patient satisfaction that can quickly complete the administrative system. Patients can also be called *end users (end users*) referred to here are those who are directly involved in the use of SIMRS in the organizational or institutional environment, namely hospital employees and patients. Instrument on EUCS is one of the research instruments that can be used to measure the success of an information system which includes 5 components, namely consisting of *content*, *accuracy*, *format*, *easy*, and *timeliness* (William J Doll and Torkzadeh 1988). In addition to these 5 research instruments, the author also added other instruments, namely *training* and the impact of user satisfaction on "net benefits" because "*net benefits*" is one of the most important measures of success (Gupta, Bostrom, and Huber 2010; Delone and McLean 2003). SIMRS analysis is needed to determine the quality and benefits of the system for its users (users) which can then be used as material for system improvement.

According to previous researchers of End User Acceptance Analysis using TAM and EUCS methods on the acceptance of the ABC Bank Core System (Charlesto Sekundera 2006), the results of the study of the TAM Model Variables, namely Expediency and Ease of Use and 3 EUCS Model Variables, namely Acuity, ease, and Timeliness influenced the acceptance of the core banking system at ABC Bank.

Tourism Information System Analysis Usingn Modified End User Computing Satisfaction (EUCS) Method Case Study at the Ponorogo Regency Culture, Tourism, Youth and Sports Office (Kusrianawati, Yunita, 2015), the results of timeliness of the information system have a positive effect on user satisfaction and user satisfaction proven to increase organizational impact/performance. Whereas Content, Accuracy, format, ease of use have not proven to have any effect.

Based on this description, the variables used in this study include 5 EUCS instruments, namely content, *accuracy*, *format*, *easy of use* timeliness of the information system (*timeliness*) and 3 additional variables, namely training , user *satisfaction* and system benefits (*net benefit*).

METHOD

Researchers used purposive sampling andobtained 32 users. Data collection was carried out with in-depth interviews and observations with data analysis assisted by the SmartPLS application.

The pilot testing in this study was disseminated through a short message application to 32 people who had experience using hospital information systems (SIMRS). Furthermore, the respondents' responses obtained were processed using the SPSS application to determine the validity and reliability of the research questionnaire used. From the tests carried out, the results were obtained that the instrument was valid by looking at the test results of a significance level of 99% (0.01) marked with a two-star code on the test results. Meanwhile, the reability of the questionnaire was seen based on the value of conbrach's alpha. From the results of the questionnaire test, a value of 0.955 was obtained which was close to index 1 so that it was concluded that the real level of the questionnaire was very good. Based on the results of the questionnaire testing that has been carried out, it can be ascertained that the research questionnaire is appropriate and valid. So then the questionnaire was distributed to the research respondents, namely Hospital Employees at Taluk Kuantan Hospital.

The distribution of questionnaires in this study was carried out using Google Form. The URL address of the Google Form is distributed through a short message application to Hospital Employees to obtain data related to the object of study. The distribution of this research questionnaire was carried out for a period of one month, namely from July to August 20 22.

RESULT AND DISCUSSION

Direct Effect

Direct effect analysis is useful for testing the hypothesis of the direct influence of an influencing variable (exogenous) on the influenced variable (Endogenous).

Table 1. Path Coefficient

Variable	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	P Values
Accuracy -> User_Satisfaction	0.254	0.231	0.109	0.020
Content -> User_Satisfaction	-0.133	-0.116	0.078	0.089
Ease_of_use -> User_Satisfaction	0.171	0.173	0.072	0.018
Format -> User_Satisfaction	0.230	0.224	0.062	0.000
Timeliness -> User_Satisfaction	0.205	0.209	0.058	0.000
Training -> User_Satisfaction	0.252	0.262	0.063	0.000
User_Satisfaction -> Net_Benefit	0.733	0.732	0.037	0.000

Indirect Effect

Indirect effect analysis is used to test hypotheses by looking at the indirect influence of an exogenous variable on an influenced variable (endogenous) which is mediated by an intervening variable (mediator variable). The values of the Indirect Effect construct are presented in Table 2.

Table 2. Indirect Effect

Variable	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	P-Values
Accuracy-> User_Satisfaction -> Net_Benefit	0.186	0.167	0.076	0.014
Content-> User_Satisfaction -> Net_Benefit	-0.097	-0.083	0.055	0.076
Ease_of_use-> User_Satisfaction -> Net_Benefit	0.125	0.128	0.055	0.024
Format-> User_Satisfaction -> Net_Benefit	0.169	0.164	0.044	0.000
Timeliness-> User_Satisfaction -> Net_Benefit	0.150	0.153	0.044	0.001
Training-> User_Satisfaction -> Net_Benefit	0.185	0.192	0.048	0.000

Source: Primary Data processed, 2019

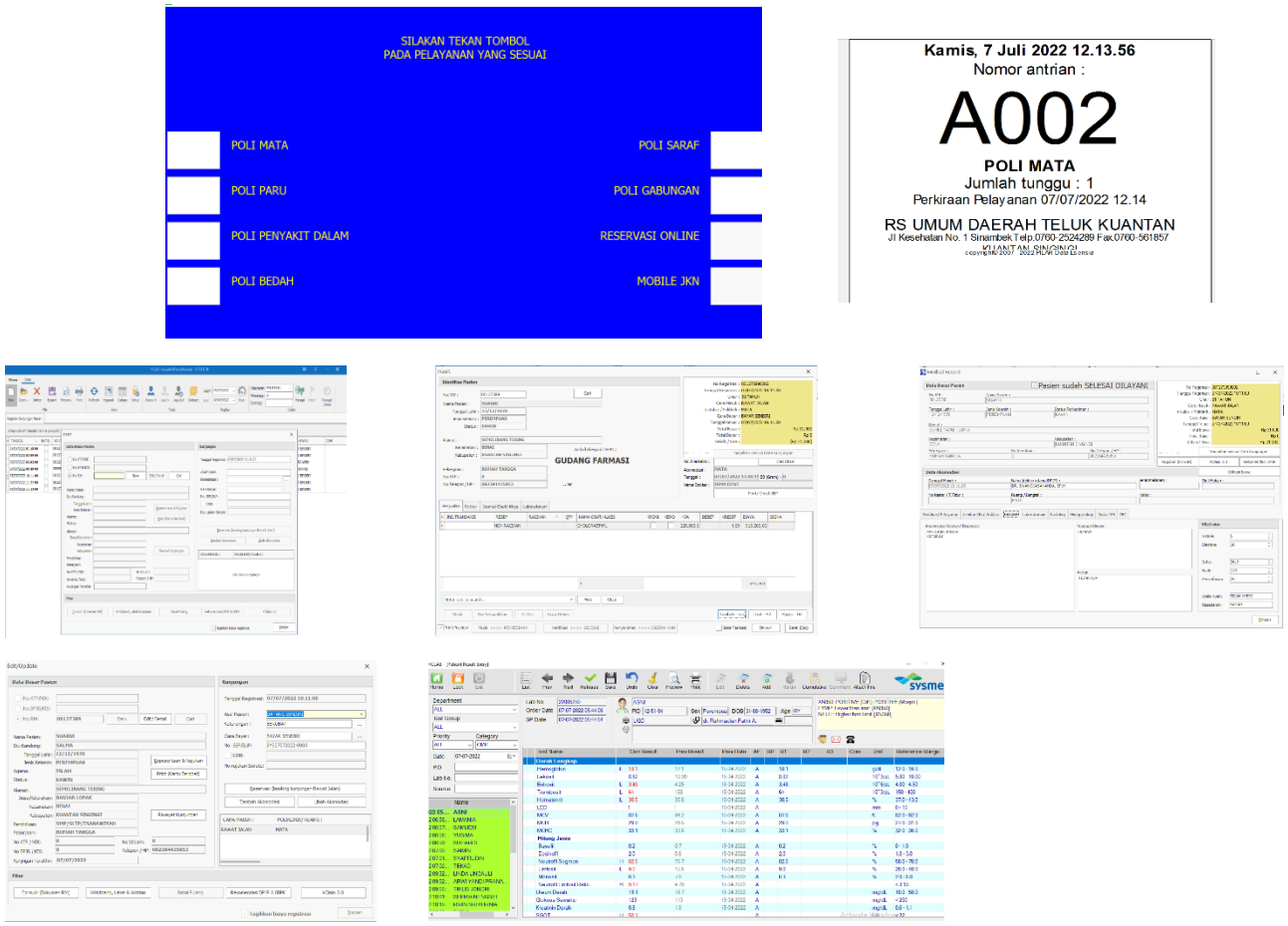
To measure the intervening variable, the value of P Value ≤ 0.05 is said to be significant .

Based on Table 4.10, it can be seen that the exogenous Accuracy construct has a positive influence (O = 0.254) on the User Satisfaction construct and the p-value of 0.020. Therefore, the first hypothesis stating that there is an effect of Accuracy on User Satisfaction is supported.

1) The exogenous content construct has a negative influence (O = 0.133) on the User Satisfaction construct and the p-value of 0.089. Therefore, the second hypothesis stating that there is an effect of Content on User Satisfaction is rejected;
2) The Ease of Use exogenous construct has a positive influence (O = 0.171) on the User Satisfaction construct and the p-value of 0.018. Therefore, the third hypothesis stating that there is an effect of Ease of Use on User Satisfaction is supported;
3) The Format exogenous construct has a positive influence (O = 0.230) on the User Satisfaction construct and the p-value of 0.000. Therefore, the third hypothesis stating that there is an influence of Format on User Satisfaction is supported;
4) The Timeliness exogenous construct has a positive influence (O = 0.205) on the User Satisfaction construct and the p-value of 0.000. Therefore, the third hypothesis stating that there is an effect of Timeliness on User Satisfaction is supported;
5) Exogenous construct Training has a positive influence (O = 0.252) on the User Satisfaction construct and p-value value 0.000. Therefore, the third hypothesis stating that there is an effect of Training on User Satisfaction is supported; and
6) The exogenous construct of User Satisfaction has a positive influence (O = 0.733) on the Net Benefit construct and the value of p – value 0.000. Therefore, the third hypothesis stating that there is an influence of User Satisfaction on Net Benefit is supported.

The Effect of Content on User Satisfaction

The content of SIMRS displays starting from retrieving the Hospital queue number and providing services to register for administration to taking hospital drug data. To access SIMRS, Hospital Employees must first activate using the password that has been provided for Hospital Employees. Furthermore, Hospital Employees are required to input data according to the patient's ID card and card. Next, the Hospital Employee will enter the SIMRS home page. Picture 1 shows the SIMRS home page after the Hospital Employee.



Picture 1. SIMRS Queue Tickets

CONCLUSION

Overall, the results of this study show that SIMRS end users are not satisfied with SIMRS. This can be explained by the results of statistical calculations that show the size of the content variables (content), accuracy (accuracy), format (format), ease of use (easy of use), timeliness (timeliness), and training (training) shows a small satisfaction value.

Furthermore, this study was also conducted to identify critical variables that affect end-user satisfaction with SIMRS. The results showed that accuracy, format, easy of use, timeliness, and

training had a significant and positive influence on user satisfaction, while (content) did not have a significant influence on user satisfaction and user satisfaction had a significant and positive influence on Net Benefit.

REFERENCE

Abdillah, W. & Hartono, J. (2015). *Partial Least Square (PLS): Alternative Structural Equation Modeling (SEM) In Business Research*. Yogyakarta: Andi Publishers 22: 103–50.

Abdinnour-Helm, Sue F, Barbara S Chaparro, and Steven M Farmer. 2005. *Using the End-User Computing Satisfaction (EUCS) Instrument to Measure Satisfaction with a Web Site*. Decision Sciences 36 (2): 341–64.

Al-Hashimi, Mukhtar, and Mishleen M Aqleh. (2017). *End-Users' Satisfaction With The Quality of Innovative Healthcare Technologies in Bahrain: A Case Study of Hospital Information System*. International Journal of Food, Nutrition and Public Health 9 (2): 81–91.

Almajali, Dmaithan Abdelkarim, Ra'ed Masa'deh, and Ali Tarhini. (2016). *Antecedents of ERP Systems Implementation Success: A Study on Jordanian Healthcare Sector*. Journal of Enterprise Information Management 29 (4): 549–65.

Ayebazibwe, Immaculate, Honest C Kimaro, and Jens J Kaasbøll. (2019). System Use and User Satisfaction in the Adoption of Electronic Medical Records Systems: A Case of DHIS2 Tracker Implementation in Tanzania." In *International Conference on Social Implications of Computers in Developing Countries*, 63–75.

Azuar Juliandi. (2018). *Structural Equation Modeling Based Partial Least Square (SEM-PLS) Using SmartPLS*. Batam University. https://doi.org/10.5281/zenodo.2532119.

Bailey, James E, and Sammy W Pearson. (1983). Development of a Tool for Measuring and Analyzing Computer User Satisfaction. *Management Science, 29*(5): 530–45.

Charlesto Sekundera, P L. (2006). Analysis of End User Acceptance Using Technology Acceptance Model End User Computing Satisfaction towards the Implementation of Core Banking System at Bank ABC. *Journal of Human-Computer Interaction*, 31(8), pp. 496–505. doi:10.1080/10447318.2015.1064654.

Cheney, Robert E and Miller, Laury. (1988). Mapping the 1986-1987 El Nino with GEOSAT Altimeter Data. *Eos, Transactions American Geophysical Union, 69*: 754–55.

Cheng, Ruijing, and Xiaosong Zhang. (2018). *Business Intelligence & Analytics (BI&A) Systems Training: The Guidelines for Improving the Effectiveness of BI&A Systems Training for Business Users*.

Chin, Wynne, and Matthew Lee. (2000). A Proposed Model and Measurement Instrument for the Formation of IS Satisfaction: The Case of End-User Computing Satisfaction. *ICIS 2000 Proceedings*, *57*.

Chin, Wynne W, and Matthew K O Lee. (2000). A Proposed Model and Measurement Instrument for the Formation of IS Satisfaction: The Case of End-User Computing Satisfaction." *ICIS Brisbane*, 553–63.

Chin, Wynne W, and others. (1998). The Partial Least Squares Approach to Structural Equation Modeling. *Modern Methods for Business Research, 295*(2): 295–336.

Cleary, Michelle. (2019). Latent Variable Path Modeling with Partial Least Squares. *Journal of Chemical Information and Modeling, 53*. https://doi.org/10.1017/CBO9781107415324.004.

Davis, Fred D. (1985). *A Technology Acceptance Model for Empirically Testing New End-User Information Systems: Theory and Results*. Massachusetts Institute of Technology.

Delone, William H, and Ephraim R McLean. (2003). The DeLone and McLean Model of Information Systems Success: A Ten-Year Update. *Journal of Management Information Systems*, *19*(4): 9–30.