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The 1st International Conference on Information Technology and Security

Malang, November 27, 2014

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Lembaga Penelitian dan Pengabdian pada Masyarakat

Sekolah Tinggi Informatika dan Komputer Indonesia



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Editors & Reviewers:

Tri Y. Evelina, SE, MM Daniel
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LEMBAGA PENELITIAN & PENGABDIAN KEPADA MASYARAKAT

Sekolah Tinggi Informatika & Komputer Indonesia (STIKI) – Malang

Website: itechs.stiki.ac.id E-mail: itechs@stiki.ac.id

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Sekolah Tinggi Informatika & Komputer Indonesia (STIKI) – Malang
Jl. Raya Tidar 100 Malang 65146, Tel. +62-341 560823, Fax. +62-341 562525
Website: itechs.stiki.ac.id E-mail: itechs@stiki.ac.id

GREETINGS

Head of Committee IC-Itechs

For all delegation participants and invited guest, welcome to International Conference on Information Technology and Security (IC-Itechs) 2014 in Malang, Indonesia.

This conference is part of the framework of ICT development and security system that became one of the activities in STIKI and STTAR. this forum resulted in some references on the application of ICT. This activity is related to the movement of ICT development for Indonesia.

IC-Itechs aims to be a forum for communication between researchers, activists, system developers, industrial players and all communications ICT Indonesia and abroad.

The forum is expected to continue to be held continuously and periodically, so we hope this conference give real contribution and direct impact for ICT development.

Finally, we would like to say thanks for all participant and event organizer who involved in the held of the IC-Itechs 2014. We hope all participant and keynote speakers got benefit from this conference.

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Assessment of Implementation Health Center Management Information System With Technology Acceptance Model (TAM) Method And Spearman Rank Test In Jember Regional Health Center)

Sustin Farlinda

Politeknik Negeri Jember
sustin_bangsai@yahoo.com

Abstract

Public Health Center (PHC) Management Information System (SIMPUS/Sistem Informasi Manajemen Puskesmas) is one development of information technology in health information systems that are managed by the health department. Department of Health in Indonesia to develop this SIMPUS since 2010. Examples of Jember District Health Office has implemented the SIMPUS in each health center so that the processing of data in health centers and report to the Department of Health can be efficient and effective. The number of PHC in Jember are 49 and have implemented SIMPUS are 15 health centers. SIMPUS The purpose of this study was to assess the implementation of the method SIMPUS Technology Acceptance Model (TAM) and test the variables of the TAM method influential or not in Jember Regional Health Center with statistical analysis using Spearman Rank test. The population in this study are 15 health centers, by sampling two respondents from each health center so that a sample of 30 people at the responden. The results of this study indicate SIMPUS implementation assessment for Ease variable (Perceived Usefulness) is 85%, Variable Benefit (Perceived Ease Of Usefulness) is 89%. Usage and Attitude variables (Attitude Toward Using) is 87%. While the results of the analysis with Spearman Rank test the ease factor (perceived ease of use) related significantly to user attitudes Information System is the result of the calculation of the significance of 0,040. Benefit factors (perceived usefulness) significantly related to the attitude of the use of information system that is the result of the calculation of significance of 0.022, the benefit factor (perceived usefulness) related significantly to the convenience factor of Information Systems is the result of the calculation of significance of 0.000.

Keywords : *Public Health Center (PHC) Management Information System (SIMPUS), Technology Acceptance Model*

INTRODUCTION

The implementation of health information systems include: 1. Management of health information systems which include the legal, policy and program planning, organizing, co-operation and co-ordination, monitoring and evaluation, as well as guidance and supervision. 2. The implementation of health information systems that include data and information as well as indicators, data sources and management or collection, processing, presentation and analysis of data and health information. 3. The resources include health information systems, human resources, finance, science and technology and infrastructure such as data resources, network resources, software and hardware. 4. The development and improvement of health information systems that include, the development of indicators, the development of methods in health information systems, research and development of health information systems. 5. Improved

product and dissemination of health information. (National Health System, Presidential Decree 2012).

PHC Management Information System (SIMPUS) is one form of development of information technology in the field of health information systems that are managed by the health department. Department of Health in Indonesia to develop this SIMPUS since 2010. Examples of Jember District Health Office has implemented the SIMPUS in each health center so that the processing of data in health centers and report to the Department of Health can be efficient and effective.

The results of the preliminary survey has been conducted in Jember there, 49 Puskesmas known who have implemented PHC Management Information System (SIMPUS) are 15 health centers. Of the 15 health centers that have implemented a Management Information System health centers decreased from 15 to 13 health centers health centers send a monthly report to the Health Office applications, it can be seen from the first quarterly report of 2013,. So it can be said in its application, PHC Management Information System is not going well. And based on preliminary studies conducted to Jember District Health Department officials, it can be concluded that the cause of this information system is not running properly due to lack of further scrutiny of the Health Department, and also due to the lack of enthusiasm on the part of the health center itself when done dissemination of information systems . In addition, since the application of this information system of the Department of Health had never done that assessment or evaluation of the health centers do not know the ease and benefits generated by the Information System that will affect the user acceptance.

In analyzing how much influence the ease and benefits of the use of the Information System, the writer used the Technology Acceptance Model (TAM). According to Davis FD in Amalia (2010) Technology Acceptance Model (TAM) is a model to explain and predict user acceptance for a technology based on the influence of two factors, namely the ease factor (perceived ease of use) and benefit factors (perceived usefulness).

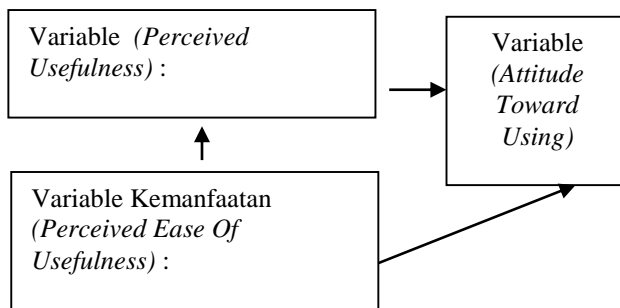
Responding to the results of the preliminary study, the researchers intend to do research is to analyze the extent to which user opinion toward acceptance of Management Information Systems PHC seen from the ease and expediency factors that exist within an information system technology, by lifting the title "Assessment Management Information System Implementation Puskesmas (SIMPUS) with the method of the Technology Acceptance Model (TAM) and Spearman Rank test in Jember district health center ".

General purpose of this study was to Evaluate Health Center Management Information System based on user perception by the method of the Technology Acceptance Model (TAM) in Jember Regional Health Center. Special Purpose, among others: 1) Assess implementasi SIMPUS based variable is the variable ease TAM (Perceived Ease of Usefulness), variable benefit (Perceived Usefulness) and user attitude variables (Attitude toward use) in PHC Jember. 2). Analyzing the relationship between the three variables, namely faktor ease TAM (Perceived Ease of Usefulness) the attitudes of users, the benefit factor (Perceived Usefulness) against user attitude (Attitude toward use) and expediency factor (Perceived Usefulness) to ease (Perceived Ease of Usefulness).

Management Information Systems Health Center SIMPUS development in East Java at the moment divided into 3 major groups SIMPUS simpustronik group consisting of Ngawi, simpustronik group of web-based, group simpustronik developed by each district. Supriyadi in Pradana (2012). The benefits of computerization program and the status of patients with favorable computers patients and health workers. Patients get a service and not burdened recording officer.

Technology Acceptance Model (TAM) Model Technology Acceptance Model (TAM) is actually adopted from the model Theory of Reasoned Action Model (TRA), which have been specifically adapted to the model of user acceptance of information systems by Davis in Kartika (2009). Technology Acceptance Model (TAM) has two sides of the first side of the so-called beliefs consisting of perceived usefulness and perceived ease of use and the second consisting of attitude, behavioral intention to use and usage behavior.

Conceptual Framework



RESEARCH METHODOLOGY

Population and Sample Research Population is the generalization region consisting of: objects / subjects that have certain qualities and characteristics defined by the researchers to learn and then drawn conclusions (Sugiyono, 2011). The population in this study were all health centers in the district of Jember who have used the health center management information system, and an unknown number reached 15 health centers. In this study, sampling using sampling techniques saturated / saturation sampling, the sampling technique when all members of the population used as a sample (Sugiyono, 2011). Thus, the researchers took samples from all over the counter clerk in 15 health centers, which is represented by any two officers in a health center. So the number of samples in this study were as many as 30 people In this study, using three variables are divided into two types of variables. The first is a variable expediency and convenience are the independent variables or independent variables. Both are variable user attitudes towards information technology is the dependent variable or dependent variable. Variables measured by considering the usefulness of indicators as follows: make the job faster, useful, productivity, effectiveness, performance of work. While the indicators used to measure the ease of variables are: ease to learn (easy to learn), ease of reaching the goal (controllable), clear and easy to understand (clear & understable), flexible (flexible), free of difficulty (easy Become skillfull), and ease of use (easy to use).

RESULTS AND DISCUSSION

Research

Characteristics of Respondents' answers Variable Benefits With details of respondents as follows, based on the five questions given to 30 respondents. Based on the survey results revealed that respondents to the variable benefit is likely to agree that is equal to 50%. From these results can be interpreted, that the use of the Information System Counters users do not bother them in the process of recording patient data, as well as reporting. The calculation of the percentage of the benefit variable as follows: Strongly agree: $72 \times 5 = 360$ Agree: $75 \times 4 = 300$ Quite Agree: $3 \times 3 = 9$ Disagree: $0 \times 2 = 0$ Strongly Disagree: $0 \times 1 = 0$ Total = 669 Total Scores highest score $x = \text{Value} \times \text{Tot Tot question respondents} = 5 \times 5 \times 30 = 750$ Percentage Score Interpretation = $(\text{Total score obtained} / \text{number of the highest score}) \times 100\% = (669/750)$

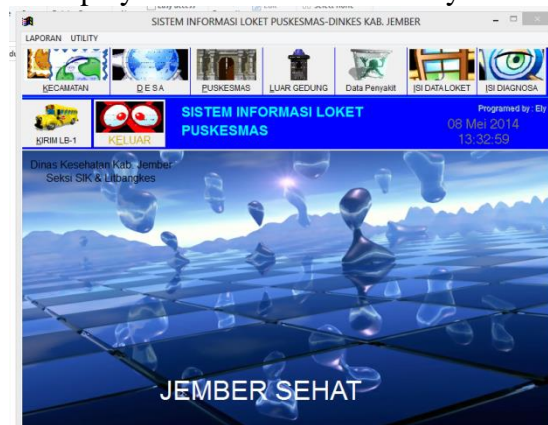
$\times 100\% = 89\%$ Characteristics of Respondents' answers Variable Ease With details of respondents as follows, based on the five questions given to 30 respondents. Based on the survey results revealed that respondents for convenience variables are likely to agree that is equal to 67%. From these results it can be interpreted that the use of technology will streamline the time in search of information. The calculation of the percentage of the benefit variable as follows:

Strongly agree: $54 \times 5 = 270$ Agree: $121 \times 4 = 484$ Quite Agree: $5 \times 3 = 15$ Disagree: $0 \times 2 = 0$ Strongly Disagree: $0 \times 1 = 0$ Total = 769 Total Scores highest score \times Value \times Tot Tot question respondents = $5 \times 6 \times 30 = 900$ Interpretation Percentage Score = (total score obtained / number of the highest score) $\times 100\% = (769/900) \times 100\% = 85\%$ Characteristics of Respondents' answers Variable User Attitudes With details of respondents as follows, based on the three questions given to 30 respondents.

Based on the survey results revealed that respondents to the variable user attitudes are likely to agree that is equal to 57%. From these results it can be interpreted that the user prefers to use the system in day-to-day recording. The calculation of the percentage of the benefit variable as follows: Strongly agree: $36 \times 5 = 180$ Agree: $51 \times 4 = 204$ Quite Agree: $3 \times 3 = 9$ Disagree: $0 \times 2 = 0$ Strongly Disagree: $0 \times 1 = 0$ Total = 393 Total Scores highest score \times Value \times Tot Tot question respondents = $5 \times 3 \times 30 = 450$ Interpretation Percentage Score = (total score obtained / number of the highest score) $\times 100\% = (393/450) \times 100\% = 87\%$.

Spearman Rank Analysis Hypothesis 1 states that the convenience factor (perceived ease of use) related significantly to user attitudes Information Systems. In appendix 7 Table 4.4 it can be seen the correlation coefficient value of 0.377 at a significance level of 5% and amounted to 0,040 significance calculation results. These results indicate that the variables significantly related to the ease of attitude variable information system users. So it can be concluded that the hypothesis 1 convenience factor (perceived ease of use) related significantly to user attitudes Information Systems. Testing Hypothesis 2 Hypothesis 2 states that the benefit factor (perceived usefulness) significantly related to the attitude of the use of Information Systems. In appendix 7 Table 4.5 it can be seen the correlation coefficient value of 0.418 at a significance level of 5% and the results of the calculation of significance of 0.022. These results indicate that the variables significantly associated benefit to variable user attitudes.

Public Display Counters Information Systems Health Center



Pictured above is the initial view system information booth after the health center to login. Menus are contained in this display are: Reports, Utility, District, village, health center, Outdoors, Data Disease, Counters Data Content, Content Diagnosis Send LB-1 and Exit menu. On the menu report contains reports visit counter, counters and reports recap lb-1, whereas the

utility menu contains submenus to add userbaru and change the password.

CONCLUSIONS AND RECOMMENDATIONS

Conclusion Based on the results of research and discussion about the acceptance of the above information system, the authors draw the following conclusion: 1) ease factor significantly related to attitudes Information System users with a correlation coefficient of 0.377 at a significant level of 0,040, with the support of respondents to the convenience variable that is equal to 85% in other words that the system is very easy to operate. The results of this study indicate that the convenience factor significantly related to attitudes Information System users. 2). Factors significantly associated benefit to the attitude of Information Systems use the correlation coefficient of 0.418 at a significant level of 0.022, with the support of respondents to the benefit of the variable that is equal to 89% in other words that the system is very useful for the user. The results of this study showed that the benefit factor significantly related to attitudes Information System users. 3). Factors significantly related to the ease of expediency factor Information Systems with a correlation coefficient of 0.749 at a significance level of 0.000. The results of this study indicate that the convenience factor significantly related to the expediency factor Information Systems.

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