EVALUASI IMPLEMENTASI SISTEM INFORMASI RUMAH SAKIT GIGI DAN MULUT UNIVERSITAS MUHAMMADIYAH YOGYAKARTA DITINJAU DARI TECHNOLOGY ACCEPTANCE MODEL

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ABSTRAK

Rumah Sakit Gigi dan Mulut Universitas Muhammadiyah Yogyakarta adalah sebuah rumah sakit yang melayani masyarakat umum sekaligus juga sebagai tempat berpraktek bagi mahasiswa kedokteran gigi Universitas Muhammadiyah Yogyakarta. RSGM menggunakan sistem informasi rumah sakit yang terintegrasi dan digunakan oleh staf rumah sakit, dosen serta mahasiswa. Penelitian ini bertujuan untuk memperoleh informasi tentang penggunaan sistem informasi sekaligus menguji dan menganalisis penerimaan terhadap teknologi dengan menggunakan Technology Acceptance Model (TAM), berdasarkan pada penelitian sebelumnya vang menggunakan teori ini. metodologi survey digunakan untuk mengumpulkan data dari 144 responden. Sensitivitas kuesioner dicapai dengan mengadopsi skala Likert lima poin. Penelitian ini dianalisis dengan menggunakan metode Partial Least Square yang memberikan hasil hubungan kausal antara variabel yang saling mempengaruhi satu sama-lain. Hasil penelitian menunjukkan bahwa Persepsi Kemanfaatan dan Kemudahan Penggunaan mempengaruhi Niat Perilaku dalam penggunaan sistem informasi rumah sakit di Rumah Sakit Gigi dan Mulut Universitas Muhammadiyah Yogyakarta

Kata Kunci: technology acceptance model, TAM modified, smartpls, perceived ease of use, perceived usefulness, behavioral intention

EVALUATION OF IMPLEMENTATION OF THE DENTAL AND MOUTH HOSPITAL INFORMATION SYSTEM OF MUHAMMADIYAH UNIVERSITY YOGYAKARTA REVIEWED FROM THE TECHNOLOGY ACCEPTANCE MODEL

ABSTRACT

The Dental and Mouth Hospital of Muhammadiyah University of Yogyakarta is a hospital that serves the general public as well as a place of practice for dentistry students at the Muhammadiyah University of Yogyakarta. RSGM uses an integrated hospital information system and is used by hospital staff, lecturers and students. This study aims to obtain information about the use of information systems while testing and analyzing the acceptance of technology by using the Technology Acceptance Model (TAM), based on previous research using this theory. A survey methodology is used to collect data from 144 respondents. The sensitivity of the questionnaire was achieved by adopting a five-point Likert scale. This study was analyzed using the Partial Least Square method which provides the results of a causal relationship between variables that influence each other. The results showed that Perceptions of Utilization and Perception of Ease of Use affect the Behavioral Intention in the use of hospital information systems at the Dental Muhammadiyah and Oral Hospital University of

Keyword: technology acceptance model, TAM modified, smartpls, perceived ease of use, perceived usefulness, behavioral intention

Preliminary

Technological advances have a major impact on the growth of the health industry. Including computer usage and information systems for hospitals. The progress of the information system that has been achieved during the four years of the implementation of Repelita VI, among others, is reflected in the use of information technology that is more effective and up to date in accordance with technological developments, as well as the availability of more accurate and more complete data and information. (1)

The quality of hospital care is important as well as aspects that will influence the patient's intention to get medical care⁽²⁾. Health organizations globally recognize the importance of investing in information technology to improve the quality of care delivery and reduce costs⁽³⁾. The success of the hospital depends on the patient's expectations, perceptions and assessments of the quality of services provided by the hospital⁽⁴⁾. Mentioned in Undang undang No 44 tentang Rumah Sakit Bab XI pasal 52 ayat 1, that "Every Hospital is obliged to record and report on all activities of Hospital administration in the form of Hospital Management Information Systems". At the beginning of its operation, RSGM had built its own information system, which of course was adjusted based on the needs of RSGM which was not only used to serve general patients but was also used to practice dental students.

This study examines the scope of the problem as follows, the first is how to build an information system evaluation framework, in terms of perceived ease of use and behavioral intentions on information systems. The use of information systems in a hospital like other institutions or companies must also be evaluated. Evaluative research intends to collect data about policy implementation. thus the benefits of the research results are also for those who make policies. based on the data from the research results, policy makers can improve the quality of its implementation⁽⁵⁾. Information system evaluation is a procedure to assess the extent to which an information system meets its objectives. This evaluation process includes synthesizing and collecting the value of each individual in the form of a score with the aim of forming a general opinion about the information system being evaluated⁽⁶⁾. An evaluation allows an institution to improve the quality of its work. or in other words this evaluative research has the benefit of developing an organization's quality or quality improvement. According to Doumpa⁽⁷⁾, through evaluation, losses will be reduced and improvements will be more easily achieved, an improvement or improvement will be repeated the system itself becomes more friendly to users and helps them to be more aware of the importance of using information systems, which will later contribute towards improving a health service unit.

This study aims to find out the implementation of the RSGM information system from the user side by using the Technology Acceptance Model. Knowing the role, behavior and perception of human resources in receiving and implementing the development of hospital information systems at Muhammadiyah Yogyakarta Dental and Oral Hospital based on:

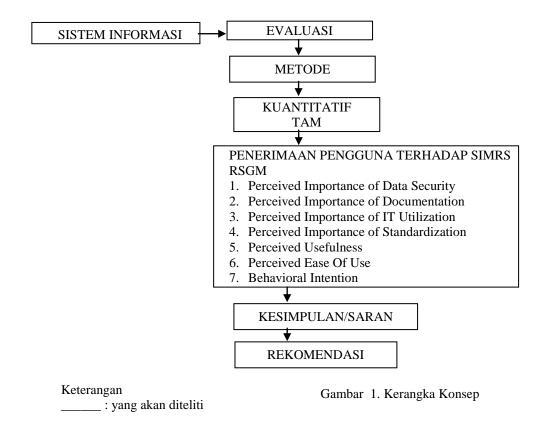
- 1. Perceived Importance Of Data Security
- 2. Perceived Importance Of Documentation

- 3. Perceived Importance Of It Utilization
- 4. Perceived Importance Of Standardization
- 5. Perceived Usefulness
- 6. Perceived Ease Of Use
- 7. Behavioral Intention

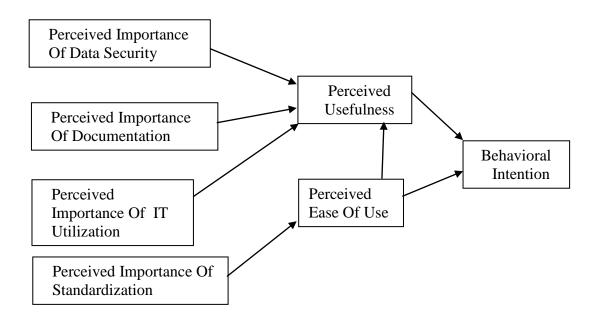
This type of research is descriptive with quantitative research data types. Evaluation that wants to examine the problem of perceptions of utilization and ease of use of Information Systems at the Muhammadiyah Dental and Oral Hospital Yogyakarta.

This study uses a cross sectional design. Researchers use this design because of the limited costs and time of research. Setia⁽⁸⁾, stated that the cross sectional study was a type of observational research design. The researcher measures the results and exposure in the study participants at the same time. Participants in the cross sectional study were only selected based on the inclusion and exclusion criteria established for the study. Sedgwick⁽⁹⁾, adding that cross sectional studies are generally fast, easy, and inexpensive to do. Often based on questionnaire surveys.

A. Concept Framework



The research model used in this study is the TAM method that has been adjusted to the limits of the proposed problem as shown below.



Gambar 2 Diagram Penelitian TAM

B. Research Hypothesis

Theoretical studies, the results of previous research that are relevant and the theoretical framework and mindset above can be proposed as follows.

1. According to Dunnebeil⁽¹⁰⁾, more and more people care about data security or data security. He explained that data processing capabilities or data processing using information systems or IT systems can better secure patient data than using documentation methods using paper that was first used, in this case medical records. Boddy⁽¹¹⁾ added that trust in information systems and dependence on them had a positive effect on the perceived benefits of a hospital information system. Based on this, the first hypothesis proposed is

H1: Perceived Importance of Data Security affects Perceived Usefulness at the Dental and Oral Hospital of Muhammadiyah University of Yogyakarta

2. Dunnebeil (2012), stated in his research that documenting medical activities is a daily activity from doctors and paramedics. Technically, a good documentation certainly requires technical assistance. The performance and usefulness of an information system in a hospital certainly depends also on the level of neatness and accuracy of documentation in this medical area. The positive influence of IT with documentation quality in this hospital was also supported by Gururajan⁽¹²⁾ who stated that good and proper documentation and accessibility to computers and consistent implementation facilitated success in the treatment of acute diseases. Sequist⁽¹³⁾ argues, the perceived benefits of health services that have a good documentation pattern are actually also a factor in improving the quality of health care. According to Yasnoff⁽¹⁴⁾, doctors also understand that the importance of documentation in their daily practices and document standardization is believed to be one of the factors in the development and use of health care information systems and in this case hospitals. Based on this, the second hypothesis proposed is,

H2: Perceived importance of Documentation affects Perceived Usefulness at the Dental and Oral Hospital of Muhammadiyah University of Yogyakarta

3. Research conducted by Sequist (2007) discusses the advantages and disadvantages of using information systems in this case electronic health

systems affect user ratings on Information Technology (IT). Perceptions about the use or use of the Information System (IT) today does not only affect whether the use of the hospital information system is considered satisfactory, but also whether someone will begin to like and use the information system in this case the hospital information system. The research conducted by Sequist also shows that Utilization of IT or IT Utilization affects Perceived Usefulness. If doctors know about IT, the level of use of information systems will increase. The results of Dunnebeil's research show that there is a significant relationship of IT Utilization (Use of IT) and Perceived Usefulness of an information system. The higher the intensity of IT Utilization will increase the Perceived Usefulness of the information system. Then the third hypothesis proposed is, H3: Perceived Importance of IT Utilization has an influence on Perceived Usefulness Information system at the Dental and Oral Hospital of Muhammadiyah University of Yogyakarta

4. According to Krcmar⁽¹⁵⁾ IT is considered a tool for activating business processes. Implementation of standards in the administration and maintenance processes must be pursued to be a priority in the use of information systems. Most doctors have complied with evidence-based treatment guidelines or evidence-based care guidelines. Dunnebeil (2012) added further that when knowledge related to IT is high, training on IT potentials and functions and information systems may have a positive influence in the future. Document standardization is a factor for the process of sharing or sharing and exchanging information between departments and health workers. This standard is needed

to provide information or documents with the same language used, databases and even system architecture to facilitate the relationship between integrated systems. Hovenga⁽¹⁶⁾ added that electronic medical health records, or electronic medical records require a standard that will be used as an index and catalog, which is useful to get information and clinical data quickly. An effective standard is needed to monitor the conditions of access and use of data and make it technically feasible to be used to exchange data even electronically. Based on this, the fourth hypothesis proposed is,

H4: Perceived Importance Of Standardization affects Perceived Ease of Use Information System for Dental and Oral Hospital Muhammadiyah University of Yogyakarta

5. Perceived ease of use according to Davis (1989) (17) explained as the user's perception of the ease of adopting the system. Perceived ease of use is said to have a direct impact on Perceived Usefulness. Dunnebeil (2012) stated in his research about Electronic Health System that Perceived Ease of Use has a very strong influence on Perceived usefulness. Based on this, the fifth hypothesis proposed is,

H5: Perceived Ease of Use influences Perceived Usefulness Information System of Dental and Oral Hospital of Muhammadiyah University of Yogyakarta

6. Perceived usefulness according to Davis (1989) is defined as the level of how someone believes that using a particular system can improve its performance.
Based on the research he had done Davis found that the perception of users

towards perceived usefulness had a relationship with behavioral intention. Holden and Karsh⁽¹⁸⁾ (2010) support this in their research paper "The technology acceptance model: its past and its future in health care" that perceived usefulness has a significant value and influences intention to use a system. Dunnebeil in the results of his research on Electronic Health System states that indeed Perceived Usefulness has a significant influence on the Behavioral Intention of users of the system. Based on this, the sixth hypothesis proposed is

H6: Perceived Usefulness affects the Behavioral Intention Information System of the Dental and Oral Hospital of Muhammadiyah University of Yogyakarta

7. Davis (1989) defines Perceived ease of use as the user's perception of the ease of adopting a system. Perceived ease of use is said to have a direct impact on Perceived Usefulness. Yi, Jackson, Park, & Probst⁽¹⁹⁾ in their research paper stated that Perceived Usefulness and Perceived Ease of use have a significant influence on Behavioral Intention about the use of PDA technology among health workers. Ong and Lai ⁽²⁰⁾ stated that users who understand the system as something easy to use will assume that the system is simple and if the Perceived Ease of Use level of online learning is high, the acceptance and use of online learning will also be high. Sun⁽²¹⁾ added that this could be due to users who believe that a technology is easy to use so they might also assume that a system is simple and that the system needs and satisfaction will be met. Dunnebeil (2012) in his research on Electronic Health Service stated that

perceived ease of use and perceived usefulness had a significant or high influence in the pattern of use of various types of e-health technology services. Someone will have a behavioral intention towards a technology if he has perceived usefulness and perceived ease of use in the technology. Vice versa. Based on the theory and frame of mind above, the seventh hypothesis is made as follows:

H7: Perceived Ease of Use has an influence on the Behavioral Intentions of the Use of Information Systems at the Dental and Oral Hospital of Muhammadiyah University of Yogyakarta

B. SUBJECT AND OBJECT OF RESEARCH

1. Research Object

The object of this study is the specification of the Hospital Information System facility (SIMRS) at the Muhammadiyah Dental and Oral Hospital Yogyakarta

2. Research Subjects

Through this research, researchers observed and evaluated the implementation of hospital information systems by students, lecturers, dental nurses, finance department, Muhammadiyah Dental and Oral Hospital Yogyakarta. Subjects observed were people related to Hospital Information System in Dental and Mouth Hospital of Muhammadiyah Yogyakarta, namely: System Administrator (IT) who understood the history of making and running the HIS application in the Dental and Oral Hospital of Muhammadiyah Yogyakarta, Medical Record Section , Front Office /

Registration Section, Dental Nurse, Radiology Section, Pharmacy Section and Management Administration Section, Finance Section, Lecturers and Students. The study uses purposive sampling, namely the determination of subjects or samples with certain considerations⁽²²⁾. According to Wilson⁽²³⁾, purposive sampling is based on the population and research objectives of the researcher. Sharma⁽²⁴⁾ states that purposive sampling can provide justification researchers to make generalizations from the sample being studied, whether the generalization is theoretical, analytic and logical. Sharma added that Purposive sampling, also known as judgmental, selective or subjective sampling, reflects a sampling technique that depends on the assessment of the researcher to choose a unit for example. person, case or organization, event and data to be studied.

Table 3.1. Variables used in the study

Variables that can be controlled	Variable operational definition				
1. Level of education	The level of education of respondents has				
	levels				
	1. S2/S3				
	2. S1				
	3. SMA				
2. Long working time	The time span of the respondent during work or				
	operationalize the information system				
3. Type of work	The type of occupation / activity of the				
	respondents is divided into 3				
	1. Lecturer				
	2. Staff				
	3. Student				

D. RESEARCH POPULATION AND SAMPLING

Tabel 3.3. Population and Sampling

Types of	Population	Sample	Sampling
Research			
Quantitative	Staf Inclusion criteria a. Staff who have worked on the relevant unit at RSGM b. Staff with minimum high school education c. Staff with tenure and interact with RSGM for 1 year	System Administrator Medical record officer Registration (Front Office) Dentist Radiology Office Pharmacy Officer Management Administration Section Financial department	Purposive sampling with reference to inclusion and exclusion criteria
		 Lecturer 	
	Angkatan 2010 dan 2011	• Student	
	Jumlah	274	

The quantitative research instrument used in this study is a questionnaire that contains questions about the characteristics of respondents, as well as the variables studied. The questionnaire used in this study is a questionnaire about system acceptance. Questionnaires about the acceptance of this system were adopted and modified from TAM (Technology Acceptance Model) Davis (20). This questionnaire is divided into seven sections, namely, about perceptions of data security, perceptions of the intensity of documentation, perceptions of the use of information technology (IT), perceptions of standardization, perceptions of utilization, perceptions of ease of use and perceptions of behavior. The items used to assess each perception consist of 2 statements. Questionnaires are prepared based on a Likert scale. Weng⁽²⁵⁾ explained that Likert introduced the sumative

method to measure attitudes which is now known as the Likert Scale and has been widely used as a tool to collect data, especially in survey research. According to Joshi⁽²⁶⁾ Likert Scale is a series of statements (items) offered for the real or hypothetical situation being studied. Norman⁽²⁷⁾ explains that the Likert scale is ordinal. Likert type data is usually used to measure attitudes that provide various responses to a given question or statement. Dittrich⁽²⁸⁾ argues that this Likert scale is an important tool in psychology and social surveys, and is a method of attudinal data collection

Likert scale has a gradation from very positive to very negative.

Interpretation of scores for the system acceptance questionnaire is divided into five scales, namely:

5 = Strongly Agree (SS)

4 = Agree(S)

3 = Hesitate (Rg)

2 = Disagree (TS)

1 = Strongly Disagree

VALIDITY TEST AND RESEARCH RELIABILITY

1. Validity test

Validity is the level of reliability and validity of the measuring instrument used. The instrument is said to be valid means showing the measuring instrument used to get the data valid or can be used to measure what should be measured.

Thus, a valid instrument is an instrument that is really right to measure what you want to measure. Validity testing uses the SmartPLS version 3.0 program

2. Reliability Test

The rehabilitation test is useful to determine whether the instrument in this case the questionnaire can be used more than once, at least by the same respondent will produce consistent data. In other words, instrument reliability characterizes the level of consistency. reliability testing using the SmartPLS version 3.0 program Tavakol⁽²⁹⁾ explains that validity and reliability are two fundamental elements in the evaluation of measurement instruments. Validity is related to the extent to which an instrument measures what is intended to be measured. Reliability is related to the ability of instruments to measure consistently. Cronbach alpha is used to estimate the proportion of systematic or consistent variance in a series of test values. This can range from 00.0 (if there is no consistent difference) to 1.00 (if all consistent variances) with all values between 00.0 and 1.00 are also possible⁽³⁰⁾.. Bland⁽³¹⁾ stated that for the scale that would later be used as a tool in the study, a scale of 0.7 to 0.8 was considered satisfactory

4.1 General Description of Research Subjects

The research subjects in this thesis were users of information systems at RSGM Muhammadiyah University Yogyakarta. With classifications, lecturers, students and staff divided into administrative departments, dental nurses, medical records, pharmacy and radiology.

Tabel 4.1 Characteristics of respondents based on Gender

Gender	Frequency	Percent
Male	33	22.9 %
Female	111	77.1 %
Total	144	100 %

Sumber: Data diolah, 2017

Tabel 4.2
Characteristics of respondents based on Age

Age	Frequency	Percent
20-29	114	79.2 %
30-39	21	14.6 %
40-49	9	6.3 %
Total	144	100 %

Sumber: Data diolah, 2017

Tabel 4.3
Characteristics of respondents based on work

Pekerjaan	Frequency	Percent
Dosen	24	16.7 %
Staff	22	15.3 %
Mahasiswa	98	68.1 %
Total	144	100 %

Sumber: data diolah, 2017

Tabel 4.4
Characteristics of respondents based on education

Pendidikan	Frequency	Percent
S2/S3	24	16.7 %
S1	103	71.5 %
D3	14	9.7 %
SMA	3	2.1 %
Total	144	100 %

Sumber: data diolah. 2017

Tabel 4.5
Characteristics of respondents based on time experience using information systems

Experience	Frequency	Percent
1-3 tahun	122	84.7 %
4-6 tahun	12	8.3 %
7-9 tahun	9	6.3 %
10-12 tahun	1	1 %
Total	144	100 %

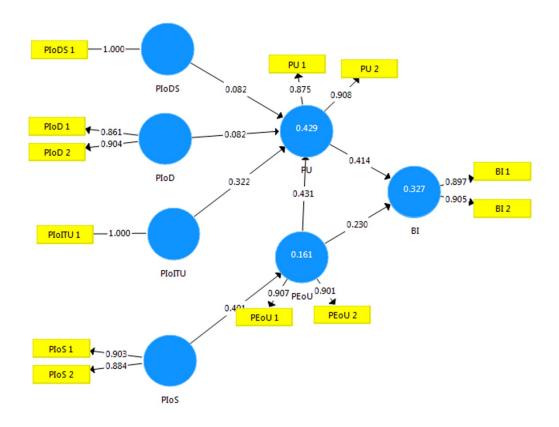
Sumber: data diolah. 2017

4.2 Data Analysis Using SmartPLS

This study uses analytical techniques with Structural Equation Model (SEM) using Partial Least Square tools. According to Ghozali (2014), structural equation models are multivariate analysis techniques. This allows researchers to examine the relationships between complex variables both recursive and non recursive to obtain a comprehensive picture of the overall model. The steps that must be taken in the use of PLS are:

1. Outer Model Testing

According to Chin quoted by Ghozali (2014) parametric techniques for testing the significance of parameters are not needed because PLS does not assume the existence of certain distributions for parameter estimation. The measurement model or outer model with reflective indicators is evaluated by convergent validity and discriminant validity of the indicator.



Gambar 4.2 Output SmartPLS setelah dilakukan penghilangan item yang tidak valid Sumber : SmartPLS (2018)

Tabel 4.30 Cross Loading

	BI	PEoU	PIoD	PIoDS	PIoITU	PIoS	PU
BI 1	0.897						
BI 2	0.905						
PEoU 1		0.907					
PEoU 2		0.901					
PIoD 1			0.861				
PIoD 2			0.904				
PIoDS 1				1.000			
PIoITU 1					1.000		
PIoS 1						0.903	
PIoS 2						0.884	
PU 1							0.875
PU 2							0.908

Sumber: data diolah dari output SmartPLS (2018)

Table 4.30 shows the results and loading factor values after an invalid item item is removed. Based on the table, there are very positive results. Perceived Importance of Data Security (PIoDS) after the invalid item has been removed, its value is 1,000 while the Perceived Importance of IT Utilization after the invalid item has been removed its value also changes to 1,000

Tabel 4.31 Cronbach Alpha value and AVE value after invalid item deletion

	Cronbach's	rho_A	Composite	Average Variance
	Alpha		Reliability	Extracted (AVE)
BI	0.768	0.769	0.896	0.812
PEoU	0.776	0.776	0.899	0.817
PIoD	0.718	0.733	0.876	0.779
PIoDS	1.000	1.000	1.000	1.000
PIoITU	1.000	1.000	1.000	1.000
PIoS	0.748	0.752	0.888	0.799
PU	0.743	0.754	0.886	0.795

Sumber: data diolah dari output SmartPLS, 2018

Next in table 4.31 above the AVE value is shown after the invalid item is removed. Based on the table the test results show that the value required by AVE has been fulfilled AVE only requires a value of 0.5 to be declared as a valid construct. While the Cronbach's Alpha value for each construct is> 0.7. So that is continued by testing discriminant validity

a. Discriminant validity

Discriminant validity of the model is measured based on cross loading measurement with its construct or comparing AVE roots for each construct with correlation between constructs and other constructs in a model.

The model is considered to have sufficient discriminant validity if the AVE root for each construct is greater than the correlation between the construct and the other constructs in the model.

Tabel 4.32 Cross Loading after invalid item deletion

	BI	PEoU	PIoD	PioDS	PIoITU	PioS	\mathbf{PU}
BI 1	0.897	0.392	0.295	0.341	0.348	0.555	0.480
BI 2	0.905	0.423	0.384	0.322	0.432	0.522	0.489
PEoU 1	0.435	0.907	0.222	0.102	0.240	0.364	0.478
PEoU 2	0.383	0.901	0.184	0.126	0.198	0.360	0.494
PIoD 1	0.278	0.094	0.861	0.344	0.225	0.511	0.261
PIoD 2	0.380	0.288	0.904	0.341	0.391	0.423	0.311
PIoDS 1	0.368	0.125	0.387	1.000	0.187	0.331	0.228
PIoITU 1	0.434	0.243	0.356	0.187	1.000	0.400	0.472
PIoS 1	0.526	0.373	0.445	0.357	0.293	0.903	0.467
PIoS 2	0.542	0.343	0.494	0.230	0.428	0.884	0.630
PU 1	0.432	0.445	0.291	0.164	0.405	0.525	0.875
PU 2	0.522	0.510	0.291	0.238	0.435	0.561	0.908

Sumber: data diolah dari output SmartPLS 2018

Based on table 4.32 above, it can be seen that the correlation between construct indicators for each variable and the indicator is higher than the correlation of indicators with other constructs (the numbers in the table are bold and blocked). This shows that the latent construct predicts indicators on the construct block to be better than in the other blocks. Next to ensure discriminant validity, is shown in the following table.

Tabel 4.33 AVE value and AVE roots

Average						
	Variance Extracted (AVE)	\sqrt{AVE}				
BI	0.812	0.901				
PeoU	0.817	0.904				
PioD	0.779	0.883				
PioDS	1.000	1.000				
PIoITU	1.000	1.000				
PioS	0.799	0.894				
PU	0.795	0.892				

Sumber: Output SmartPLS, 2018

Based on the results of the analysis it is known that the root value of AVE of the AVE value so that discriminant validity is fulfilled

Tabel 4.34 Latent Variable Correlation

	BI	PEoU	PIoD	PIoDS	PIoITU	PIoS	PU
BI	0.901						
PEoU	0.453	0.904					
PIoD	0.377	0.225	0.883				
PIoDS	0.368	0.125	0.387	1.000			
PIoITU	0.434	0.243	0.356	0.187	1.000		
PIoS	0.597	0.401	0.524	0.331	0.4	0.894	
PU	0.538	0.538	0.326	0.228	0.472	0.61	0.892

Sumber: Output SmartPLS, 2018

Based on the table above shows that the AVE root of each construct is greater than the correlation between constructs and other constructs in the model, so that it can be said that this model has a fairly high discriminant validity.

3. Reliability

Reliability testing is done by looking at the Cronbach Alpha and Composite Realibility values

Tabel 4.35 Cronbach's Alpha and Composite Realibility

	Cronbach's Alpha	Composite Reliability	
BI	0.768	0.896	
PeoU	0.776	0.899	
PioD	0.718	0.876	
PioDS	1.000	1.000	
PIoITU	1.000	1.000	
PioS	0.748	0.888	
PU	0.743	0.886	

Sumber: output SmartPLS, 2018

Table 4.35 shows the results that the Cronbach Alpha and Composite Realibility values in all constructs have a satisfactory value that is the value of each above the minimum value of 0.70. Based on this value shows the consistency and stability of the instrument used is very high, in other words the reliability of the instrument has been fulfilled

2. Testing the structural model (inner model)

Inner model testing or structural model is done to determine the relationship between each construct, as has been made a hypothesis in this study. The structural model is evaluated using R-Square for the dependent construct, t test and the significance of structural path parameter coefficients. Model evaluation

with SmartPLS begins by looking at the R-square for each dependent variable whose interpretation is the same as the interpretation of regression. Changes in R-square values can be used to assess the effect of certain independent latent variables on the dependent latent variables and whether these variables have substantial influence.

Tabel 4.36 Output R-Square value

	R Square
BI	0.327
PEoU	0.161
PU	0.429

 $\begin{array}{c} \text{Sumber: output SmartPLS ,} \\ 2018 \end{array}$

Based on the R-Square table above it is shown that the Behavioral Intention variable has a R-Square value of 0.327 which means that this Behavioral Intention is explained by the variables Perceived Usefulness and Perceived Ease of Use by 32.7%. While Perceived Usefulness has a R-Square value of 0.429, which means that Perceived Usefulness is explained by the variable, Perceived Importance of Documentation, Perceived Importance of Data Security and Perceived Importance of IT Utilization by 42.9%. Meanwhile Perceived Ease of Use has a value of R-Square of 0.161 which means that Perceived Ease of Use is explained by the Perceived Importance of Security variable of 16.1%. An assessment of the inner weight can be done by observing the values and relationships between latent constructs and seeing the estimation results of path parameter coefficients and their level of significance. This inner weight also shows the results of testing hypotheses. Testing the hypothesis proposed by observing the value of t-statistics. If the t value of the statistics> t table, then the hypothesis can be accepted. T-statistics estimation results can be seen in the table below.

Tabel 4.37 Path Coefficients (Mean, STDEV, T-statistics)

	Original	Sample	Standard	T Statistics	P Values
	Sample (O)	Mean (M)	Deviation (STDEV)	(O/STDEV)	
PEoU -> BI	0.23	0.238	0.108	2.123	0.034
PEoU -> PU	0.431	0.427	0.084	5.149	0.000
PIoD -> PU	0.082	0.079	0.096	0.854	0.394
PIoDS -> PU	0.082	0.087	0.064	1.273	0.204
PIoITU -> PU	0.322	0.325	0.108	2.999	0.003
PIoS -> PEoU	0.401	0.407	0.078	5.119	0.000
PU -> BI	0.414	0.406	0.105	3.933	0.000

Sumber: Output SmartPLS, 2018

Tabel R Square

	R Square	
	R Square	Adjusted
BI	0.327	0.317
PEoU	0.161	0.155
PU	0.429	0.413

Sumber: data diolah (2018)

Based on the R square value of BI has a value of 0.327 which means that the variable is influenced by PEOu of 0.161 and PU of 0.429. While the rest is explained by other variables outside the one studied

CHAPTER V. CONCLUSIONS AND SUGGESTIONS

5.1 Conclusion

This study aims to obtain a brief description of the implementation of information system usage at RSGM Muhammadiyah University of Yogyakarta by using the Technology Acceptance Model, using elements of the Perceived Importance Of Data Security, Perceived Importance Of Documentation, Perceived Importance Of It Utilization, Perceived Importance Of Standardization, Perceived Usefulness, Perceived Ease Of Use and Behavioral Intention. Based on the results of the questionnaire and the discussion that has been done in the previous chapter, it can be concluded that the implementation of the use of information systems at RSGM is the TAM model introduced by Davis can be used in this study, considering that web-based information systems are part of information technology. In general, hospital information system users, especially those used at RSGM, have a positive perception of the information system used.

Information system users from research results have confidence in the benefits and conveniences that have an impact on attitudes, interests and behavior in the use of RSGM information systems. Perceived ease of use has a positive influence on behavioral intention with a value of 0.23 and a table of t count values of 2.148. While Perceived Usefulness also has a positive influence on Behavioral Intention with a value of 0.414 and a table of t count values of 4.108. Based on this value between the Perceived ease of use and Perceived Usefulness the same has a significant effect on the Behavioral Intention of information system users at RSGM Muhammadiyah University of Yogyakarta.

Perceived Ease Of Use has a positive value on Perceived usefulness of 0.431 and the table t count value is 5.641, it can be stated that the influence of significant variables. Furthermore, the Perceived Importance Of Documentation parameter coefficient of Perceived usefulness is 0.082 and the table t count value is 0.870. Based on this, it can be stated that the influence of variables is not too significant. The Coefficient of Perceived Importance of IT Utilization on Perceived Usefulness is positive, that is equal to 0.322, and the t-table value is 3.170, it can be stated that the influence of variables is significant. The magnitude of the correlation of Perceived Importance of Standardization to Perceived ease of use is 0.401 and the table t counts shows a value of 4,598, this can be stated that the influence of variables is significant. While the magnitude of the parameter coefficient for Perceived Of Data Security variable on Perceived Usefulness has a positive effect of 0.082, but the table t counts the value of 1,287, based on this it can be stated that the influence of variables is insignificant.

Based on the results of the study, the information system at the Muhammadiyah University Yogyakarta Hospital was well received by lecturers, staff and students. The results of the study prove that Perceived Ease Of Use, Perceived Usefulness and Behavioral Intention of respondents are in a good and acceptable level

5.2 Suggestions

An information system is a supporting tool for an organization or company. Therefore it needs to get serious attention. There are several things that can be done to manage the hospital information system, including:

- 1. Adding personnel to the information system management unit. With the increase in personnel will facilitate the division of work and if problems occur unexpected problems can be quickly resolved. Because if a system failure occurs, it will disrupt the operation at the hospital
- The need for maintenance in the form of hardware updates that are used to support the running of information systems such as computers, cables and other network devices.
- 3. There is a periodic evaluation of the information system that is being used.

 If there is a continuous evaluation, the information system will continue to grow, meet the needs of the organization or company and not just be static.
- 4. This research should continue and be developed again, because based on the R Square value of Behavioral Intention obtained a value of 0.327, which means that the variable is influenced by Perceived Of Use of 0.161 and Perceived Of Usefulness of 0.429. While the rest is explained by other variables outside the one studied

REFERENCES

- 1. Bappenas SISTEM INFORMASI DAN STATISTIK.doc.
- 2. Budiwan V, Efendi. The Understanding of Indonesian Patients of Hospital Service Quality in Singapore. Procedia Social and Behavioral Sciences. 2016 Jun;224:176–83.
- 3. Özogul CO, Karsak EE, Tolga E. A real options approach for evaluation and justification of a hospital information system. Journal of Systems and Software. 2009 Dec 1;82(12):2091–102.
- 4. Nadi A, Shojaee J, Abedi G, Siamian H, Abedini E, Rostami F. Patients' Expectations and Perceptions of Service Quality in the Selected Hospitals. Medical Archives. 2016 Apr;70(2):135.
- 5. Arikunto S. Prosedur Penelitian Suatu Pendekatan Praktik. Rineka Cipta; 2010.
- 6. Platiša G, Balaban N. MIS2009_2_2.pdf [Internet]. [cited 2018 May 22]. Available from: http://www.ef.uns.ac.rs/mis/archive-pdf/2009%20-%20No2/MIS2009_2_2.pdf
- Doumpa T. Hospital Information System Evaluation [Internet]. [cited 2018 May 22]. Available from: http://digilib.teiemt.gr/jspui/bitstream/123456789/3450/1/03DSSZ01Z0018.pdf
- 8. Setia MS. Methodology Series Module 3: Cross-sectional Studies. Indian J Dermatol. 2016;61(3):261–4.
- 9. Sedgwick P. Cross sectional studies: advantages and disadvantages. BMJ. 2014 Mar 26;348(mar26 2):g2276–g2276.
- Dünnebeil S, Sunyaev A, Blohm I, Leimeister JM, Krcmar H.
 Determinants of physicians' technology acceptance for e-health in ambulatory care. International Journal of Medical Informatics. 2012 Nov;81(11):746–60.
- 11. Boddy D, King G, Clark JS, Heaney D, Mair F. The influence of context and process when implementing e-health. BMC Medical Informatics and Decision Making [Internet]. 2009 Dec [cited 2018 Jul 25];9(1). Available

from:

http://bmcmedinformdecismak.biomedcentral.com/articles/10.1186/1472-6947-9-9

- 12. Gururajan R. Drivers of Wireless Technology in Healthcare: An Indian Study. :14.
- 13. Sequist TD, Cullen T, Hays H, Taualii MM, Simon SR, Bates DW. Implementation and Use of an Electronic Health Record within the Indian Health Service. Journal of the American Medical Informatics Association: JAMIA. 2007 Apr;14(2):191.
- 14. YASNOFF WA, OVERHAGE JM, HUMPHREYS BL, LAVENTURE M. A National Agenda for Public Health Informatics: 2001;8(6):11.
- 15. Christin Jurisch M, Palka W, Wolf P, Krcmar H. Which capabilities matter for successful business process change? Business Process Management Journal. 2014 Jan 28;20(1):47–67.
- 16. (PDF) National standards in health informatics [Internet]. ResearchGate. [cited 2018 Aug 20]. Available from: https://www.researchgate.net/publication/43227078_National_standards_i n_health_informatics
- 17. Davis FD. Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. MIS Quarterly. 1989 Sep;13(3):319.
- 18. Holden RJ, Karsh B-T. The Technology Acceptance Model: Its past and its future in health care. Journal of Biomedical Informatics. 2010 Feb;43(1):159–72.
- 19. Yi MY, Jackson JD, Park JS, Probst JC. Understanding information technology acceptance by individual professionals: Toward an integrative view. Information & Management. 2006 Apr;43(3):350–63.
- 20. Ong C-S, Lai J-Y. Gender differences in perceptions and relationships among dominants of e-learning acceptance. Computers in Human Behavior. 2006 Sep;22(5):816–29.
- 21. Sun P-C, Tsai RJ, Finger G, Chen Y-Y, Yeh D. What drives a successful e-Learning? An empirical investigation of the critical factors influencing learner satisfaction. Computers & Education. 2008 May;50(4):1183–202.

- 22. Sugiyono. Metode Penelitian Pendidikan (Pendekatan Kuantitatif, Kualitatif dan R&D). Penerbit CV. Alfabeta: Bandung; 2015.
- 23. Wilson V. View of Research Methods: Sampling | Evidence Based Library and Information Practice [Internet]. [cited 2018 May 20]. Available from: https://journals.library.ualberta.ca/eblip/index.php/EBLIP/article/view/221 86/16560
- 24. Sharma G. Pros and cons of different sampling techniques. :4.
- 25. Weng L-J, Cheng C-P. Effects of Response Order on Likert-Type Scales. Educational and Psychological Measurement. 2000 Dec 1;60:908–24.
- 26. Joshi A, Kale S, Chandel S, Pal D. Likert Scale: Explored and Explained. British Journal of Applied Science & Technology. 2015 Jan 10;7(4):396–403.
- 27. Norman G. Likert scales, levels of measurement and the "laws" of statistics. Adv Health Sci Educ Theory Pract. 2010 Dec;15(5):625–32.
- 28. Dittrich R. A Paired Comparison Approach for the... (PDF Download Available) [Internet]. [cited 2018 May 20]. Available from: https://www.researchgate.net/publication/241128405_A_Paired_Comparis on_Approach_for_the_Analysis_of_Sets_of_Likert-scale_Responses
- 29. Tavakol M, Mohagheghi MA, Dennick R. Assessing the Skills of Surgical Residents Using Simulation. Journal of Surgical Education. 2008 Mar;65(2):77–83.
- 30. Brown JD. Questions and answers about language testing statistics: The Cronbach alpha reliability estimate [Internet]. [cited 2018 May 22]. Available from: http://hosted.jalt.org/test/bro_13.htm
- 31. Statistics Notes: Cronbach's Alpha Author(s): J. Martin Bland and Douglas G. Altman Reviewed work(s): BMJ: British Medical Journal. 1997;314(7080):572.