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An Analysis of the Acceptance's Staffs of Madrassa Library on "Senayan"-based Library Automation System Using Technology Acceptance Model (TAM)

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AN ANALYSIS OF THE ACCEPTANCE'S STAFFS OF MADRASSA LIBRARY ON "SENAYAN" – BASED LIBRARY AUTOMATION SYSTEM USING TECHNOLOGY ACCEPTANCE MODEL (TAM)

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ABSTRACTS

The study investigated the implementation of "Senayan" – an open source library automation system- in the madrassa library. It is important to know the effectiveness of the system as one of materials in "The Human Resource Development Program for Madrassa Library. The program was held by Ministry of Religious Affair Republic of Indonesia (MORA) collaborates with UIN Jakarta, UIN Yogyakarta, and UIN Makasar. It was involved 750 staffs from three provinces in Indonesia. The approach used in this research was TAM model that was based on the constructs of *knowledge & skill (KS), perceived ease of use (PEOU), perceived usefulness (PU), attitude toward behavior (ATU), behavioral intention (BI), and actual use (AU).* Q*uestionnaires of 89 samples collected with the cluster approach were analysed using SPSS version 22. The result showed that the mean score for all of the constructs was 3 (high) out of maximum score obtainable of 4 (very high), except to the actual use (AU) was still low (2.3). T-Test analysis indicated that there was positive and significant effect for each construct, except the perceived usefulness (PU) to the attitude toward behavior (ATU) with effect value of 11.9%. Meanwhile, the most occurred in the perceived ease of use (PEOU) to the attitude toward behavior (ATU) with effect value of 64.3%. Thus, the easiness becomes more important than usefulness in providing training for madrassa library staff. In addition, the provision of a computer after the training is also taken into consideration, so that the staffs can implement their knowledge and skills in the library as soon as possible.*

Keywords: Library Automation, "Senayan" (SLiMs), Madrassa (School) Library, Technology Acceptance Model (TAM)

INTRODUCTION

The existence of madrassa in developing an education in Indonesia is very important, despite of many people consider that madrassa is a second of other education institutions. However, Madrassa is able to survive to develop an education in Indonesia, even Madrassa contributes to produce the excellent graduations, and who is able to glorify the Indonesia, especially in education aspect (Samsul, 2008). In this case, Ida (2012: 1) stated madrassa as Islamic educational institutions also involved in the establishment and development of the community. A shift in the values and the demands of modernization lead the institution that emphasized pragmatism dragged on the orientation of students' completion only. This pragmatic demands as if dismissing

the main purpose of preparing students to be a whole human being: knowledgeable, faithful had social sensitivity and character.

Viewing in terms of quantity, the number of madrassa is large enough. At this time, there is more than 58 thousand madrassas spread from *Raudhatul Athfal* or kindergarten levels (18.413), *Madrassa Ibtidayiah* or Elementary School (22.610), *Madrassa Tsanawiyah* or Secondary School (12.498), and *Madrassa Aliyah* or Senior High School (4.918). Associated with the institution, several issues stand out, namely the small number of madrasas that have been accredited (Sulistiyani, 2010: 1).

Unfortunately, the role of madrassa that is very important in the field of education has not fully followed by managing learning resources. One of these is implementation of information technology in managing library. Nowadays, we know that the use of information technology (IT) is a matter of course in any subjects. However, it would be different when we talk about it in the madrassa, especially in a library. The usage of it, both quantitatively and quality is still very low, whereas the demands of access to resources in the learning process as one of the elements of success in improving the quality of education is crucial.

For that reason, the Ministry of Religious Affair Republic of Indonesia (MORA) in cooperation with the Department of Library Science of UIN Syarif Hidayatullah Jakarta, UIN Sunan Kalijaga Yogyakarta, and UIN Sultan Alaudin Makasar had held “The Human Resource Development Program for Madrassa Library”, and one of the library materials was automation session by using "Senayan". The implementation of library automation program, known as "Senayan" or SLiMs was one of the materials to be hoped for the staffs of madrassa library having efficiency and effectiveness to manage library functions. In addition, the program is expected to be used as a means of managing digital libraries, especially in overcoming the limitation of library rooms and collections.

“Senayan" is an open source and free software developed and used by the Library of the Ministry of National Education Republic of Indonesia. It is a library management system built with an open source under the GPL v3. And, some other supporting applications of a similar nature and use in building this program include: PHP, MySQL database, and Git version control. Over the years, the application is then developed by a community of SLiMs users and activists. In 2009, SLiMs received first-class honors in INAICTA for open source software (Rasyid, 2009).

Preliminary observation on some of the madrassa libraries showed that the implementation of the program had not been maximized. So, it is considered very important for a more in-depth research on behavioral aspects of the usability and the ease of use using Technology Acceptance Model (TAM) in order to determine what factors most influence on the success or failure of real use and acceptance of the system. This research is expected to

provide recommendations to the Department of Libraries and the Directorate of Islamic Education, MORA for the implementation of competency improvement of sustainable madrassa library.

The main problem of this research is why it has not succeeded in implementing "Senayan"-based library automation system by all staffs of madrassa library that had been participated in the program to increase the competence of library personnel in Jakarta, Central Java and South Sulawesi. On this occasion, the author tried to limit the factors of *knowledge and skill (KS), perceived ease of use (PEOU), perceived usefulness (PU), attitude toward behavior (ATU), behavioral intention (BI), and actual use (AU)* of the madrassa library staffs to use library automation program based on "Senayan" as one of the subject matters in the improvement program.

The question that arisen in this research was "How to influence between the knowledge and skill (KS), perceived ease of use (PEOU), perceived usefulness (PU), attitude toward behavior (ATU), behavioral intention (BI), and actual use (AU) of the madrassa library staffs to use library automation program based on "Senayan" either partially or simultaneously? "

HYPOTHESIS

Based on the problem, it has been formulated the following research hypothesis:

H_1: There is a significant influence between KS and PEOU on the staffs of the madrassa library.

H_2: There is a significant influence between KS and PU on the staffs of the madrassa library.

H_3: There is a significant influence between PEOU and PU on the staffs of the madrassa library.

H_4: There is a significant influence between PEOU and ATU on the staffs of the madrassa library.

H_5: There is a significant influence between PU and ATU on the staffs of the madrassa library.

H_6: There is a significant influence between PU and BI on the staffs of the madrassa library.

H_7: There is a significant influence between ATU and BI on the staffs of the madrassa library.

H_8: There is a significant influence between BI and AU on the staffs of the madrassa library.

SIGNIFICANCE OF THE RESEARH

1. To give an insight to the training providers, in this case the Department of Library Science, Faculty of Literacy and Humanities UIN Jakarta, Yogyakarta and Makasar in improving the effectiveness and quality of training for the staffs of madrassa library, particularly in teaching application of information technology (library automation program) ;
2. To provide recommendations for stakeholders, the Ministry of Religious Affair Republic of Indonesia (MORA), in facilitating the improvement of madrassa library;

3. To provide scientific insight for library science observers, particularly in developing the courses application of information technology, especially in improving IT competency for its graduates.

LITERATURE REVIEW

In this occasion, the author tried to decipher a little bit about the theory of TAM, and one of the study of the application of digital library as the model. In addition, it provides a view of the “senayan” software.

Technology Acceptance Model (TAM)

Technology Acceptance Model (TAM) was first developed by Davis in 1986 by offering a theory as a foundation to study and understand the behavior of users to receive and use information systems (Davis, 1986: 7; Davis, Bagozzi and Washaw, 1989). This concept is one of the theories about the use of information technology systems that are considered very influential and is commonly used to describe the individual acceptance of the use of information technology systems as the technology acceptance model (Lambertus, 2012: 763).

Davis et al. (1989: 320) explains that the first reason one wishes to use an information technology because he believes that such devices can improve its performance, which is hereinafter referred perceived usefulness variables (PU). The second reason is that besides useful device should also be easy to use. Because these people are not necessarily willing to use these devices for reasons not easy to use. Thus the second variable that affects a person's acceptance of the use of a technology is influenced also by perceived ease of use (PEOU).

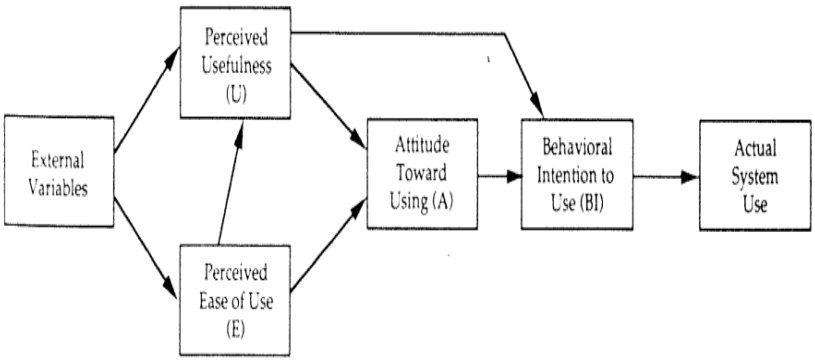
Actually, TAM is adopted from the Theory of Reasonable Actions (TRA) by Azen and Fishben in 1970, the theory reasoned action with the premise that a person's reactions and perceptions about something, which will determine the attitude and behavior of the person. Reactions and perceptions of users of information technology (IT) will affect his attitude in the acceptance of these technologies. One of the factors, that can influence it, is the user's perception of the usefulness and ease of use of IT as an action that is reasonable in the context of technology users. So, the reason of someone to view of the benefits and ease of use of IT is to make the action or behavior of the human being as a benchmark in the acceptance of a technology (Imam, 2009).

In this case Davis et al. (1989: 985) explains that TAM is a model adapted from the TRA which is devoted to model user acceptance of information systems. The main purpose is to provide a platform for investigating the influence of factors internal beliefs, attitudes and interests. TAM is formulated for that purpose by identifying a

number of important variables related to knowledge and attitude toward acceptance of computers, and using the TRA as the underlying theory to describe relationships between variables.

TRA model can be applied because of a decision by individuals to receive an information system technology is a conscious act that can be explained and predicted by the behavior of interest. TAM adds two major constructs into TRA model as described below. Two main constructs are the perceived usefulness (PU) and the perceived ease of use (PEOU) .TAM argues that individual acceptance of the information technology system is determined by the two constructs (Jogiyanto, 2007: 111).

Figure 1.
Technology Acceptance Model



(Source: Davis, Bagozzi dan Warshaw,1989:985)

The explanation of the five constructs that have been formed can be described in the following explanation (Davis et al., 1989; Yogianto, 2007: 114-117):

1) *Perceived Usefulness (PU)*

The first construct defines as the extent to which a person believes that using a technology will improve the performance of the work ("as the extent to which a person using a technology believes that will enhance his or her performance that is, if a person feel confident that the system is useful information then he will use it. Conversely, if he felt confident that the system is less useful information he will not use it. In other words, this construct is a belief of the decision-making process.

2) *Perceived Ease of Use (PEOU)*

The second constructs of TAM is defined as the extent to which a person believes that using technology would be free of effort ("is the extent to which a person believes using a technology that will be free effort"). That is, if a

person feels believe that the information system is easy to use and he will use it. Conversely, if a person feels confident that the system is not easy to use then he will not use it.

3) *Attitude toward Behavior (AB)*

The constructs of the attitude toward behavior meets the definition of a positive or negative feeling of someone having to perform determined behavior ("an individual's positive or negative feelings about performing the targeted behavior.")

4) *Behavioral Intention (BI)*

The construct of behavioral intention is a desire (interest) a person to perform a particular behavior. Someone will perform a behavior if it has no intention or interest to do so.

5) *Actual Use (AU)*

The actual use or behavior is an act done by a person. In the context of the use of information technology systems, the behavior is the use of real (actual use) of technology.

In the period of 1990 until 1995 many studies have attempted to test the consistency, validity and reliability of measurement of TAM instruments. All researchers agree that there is no absolute measurement right to form a construct. Likewise, there are no absolute correct measurements to construct perceived usefulness (PU) and perceived ease of use (PEOU) different times, the conditions and the technology used. However, in general, the results of research show that measuring TAM instruments are quite strong, consistent, valid, and reliable (Jogiyanto, 2007: 123).

Furthermore, Jogiyanto (2007) explains that some studies on TAM trying to develop an existing model by adding some external variables that explain further or cause (antecedent) of the perceived usefulness or PU and perceived ease of use or PEOU in TAM. Several in-depth studies to expand TAM by adding a wide range of external variables, such as the development of himself on the computer (computer self-efficacy) and training that can affect confidence factors perceived usefulness and perceived ease of use are still needed (Davis, Bagozzi and Warshaw, 1989 ; Smarkola, 2011: 11).

Smarkola (2011) illustrates that the development model of TAM by adding external variables can be categorized as individual variables, organization, culture, and the characteristics of the task. Agarwal and Prasad 1999, Gefen and Straub 1997, and Karahhanna et al. 1999 have performed several studies with respect to the individual variables, especially in the development of the ability to use information technology. These studies develop TAM model by adding five kinds of individual variables as external variables that better explain the construct of PU and

PEOU. The result found that the training was positively related to construct PU and prior experience, the user's role with regard to technology, tenure in workplace, level of education related with PEOU.

Subsequent developments, Imam (2009: 4) describes some research on development TAM implemented on digital libraries and generate TAM development model that one of them carried out by JYL Thong in 2002. In the study described external factors such as the characteristics of the interface, organizational context and individual differences can influence the perception of ease of use and perceived usefulness on digital libraries.

Platform "Senayan" or SLiMs

"Senayan" (or also known as SLiMs) is one of the software provided by the Indonesian Ministry of National Education, which can be downloaded free on the site http://slims.web.id/web/ because this software is freeware. It is web-based library management system to meet the needs of library automation for small to large scale. The software is quite complete and still actively developed, so it is suitable for the library that has many collections, users and staffs in the network environment, be as a local network (intranet) or the Internet. It's excellence is a multi-platform, which means it can be run natively in almost all operating systems that can run PHP programming language and MySQL RDBMS (Document SLIM: 2014).

Some of the features contained in the Slims, namely:

1. *Online Public Access Catalog* (OPAC) with the creation of thumbnails that are generated *on-the-fly*. Thumbnail is useful to display the book cover. Search modes available for simple (Simple Search) and advanced (Advanced Search). It supports Boolean Logic, using voice search and keyword suggestions;
2. Detail records are also available in XML format (Extensible Markup Language) and MODS standard for web service needs;
3. OAI-PMH features as standard data exchange;
4. *Really Simple Syndication;*
5. Features Z39.50, SRU's p2p service for copy cataloging of the various library;
6. Efficient management of bibliographic data to minimize repetition of data;
7. Management of master file for referential data, such as GMD (General Material Designation);
8. The setting of type collection, publisher, author, location, supplier, and others;
9. Circulation with features: a. Borrowing transactions and repayment; b. Reservations collection; c. Flexible lending rules; d. Information delays and fines;
10. Membership management, including photo capture members directly in the system;
11. Inventory collection;
12. Reports and Statistics;

13. Management of periodicals;
14. Multimedia document management support (.flv, .mp3) and digital documents, especially for ***pdf*** in the form of streaming;

METHODOLOGY

The object of this study is behavior of the 750 staffs of madrassa library that had got the library automation session in the training program held by Ministry of Religious Affair Republic of Indonesia (MORA) collaborates with UIN Jakarta, UIN Yogyakarta, and UIN Makasar: Jakarta (250), Yogyakarta (250), and Makasar (250). Probability technique was used to gives equal opportunity for every element of the population to be elected as members of the sampling (Sugiyono, 2011: 63). Despite of that, Cluster sampling technique was used in which samples were grouped according to the plots area. To determine the minimum number of samples, Slovin Formula was used (Hussein, 2003: 64).

Slovin formula:

$$N = \frac{N}{1 + N\,(d2)}$$

Specification:
n = sample
N = population
d = standard error (10%)

$$n = \frac{750}{1 + 750\,(10\%)^{2}}$$

$$n = \frac{750}{1 + 750\,(0.01)}$$

n = 88.2

Based on the calculation, it was rounded that the sample used in this study consisted of 89 people, Jakarta (30), Yogyakarta (29), and Makasar (30). Data were collected by distributing questionnaires that had been made based on constructs formed in the TAM model. They were performed by means of directly going to the madrassa in Jakarta and Yogyakarta (from May 15th to June 10th, 2014), whereas for the Makasar was done through e-mail and telephone (June 11rst to 21rst, 2014). And, the data collection was financed from the budget of UIN Syarif Hidayatullah Jakarta.

Furthermore, to construct the measurement categories, the researchers used a *Likert* scale from 1 = strongly disagree, to 4 = strongly agree. The average of each respondent can be grouped into class intervals, because the data are ordinal so that the data should be an interval scale. Interval is the range of respondents obtained through the difference in value compared to the maximum with the minimum number of classes, namely (Tony, 2012: 228):

Interval: $\frac{\text{The maximum value - minimum value}}{\text{Number of classes}}$

Interval: $\frac{4-1}{4} = 0.75$

Based on this information, it can be determined scale distribution of opinions of respondents as follows:

a. A value of 1.00 to 1.74 = Very low

b. A value of 1.75 to 2.49 = Low

c. A value of 2.50 to 3.24 = High

d. A value of 3.25 to 4.00 = Very high

The path analysis using SPSS ver.22 is the development of a regression analysis that is not only evaluated the linearity of the model, but also is showed the relationship as well as great influence among causal variables to evaluate how strong the correlation of two or more variables bound to the formulation of hypotheses. Hypothesis test conducted on 5-sub structural equation models with a significance level $\alpha = 0.05$, which comprised coefficient determination test, F-test and T-test the following:

- Sub structural Equation Model 1: $X2 = px2x1 + px2\varepsilon4$
- Sub structural Equation Model 2: $X3 = px3x1 + px3x2 + px2x1 + px3\varepsilon5$
- Sub structural Equation Model 3: $Y1 = py1x3 + py1x2 + px3x2 + px3x1 + px2x1 + py1\varepsilon1$
- Sub structural Equation Model 4: $Y2 = py2y1 + py2x3 + py1x3 + py1x2 + px3x2 + px3x1 + px2x1 + py2\varepsilon2$
- Sub structural Equation Model 5: $Y3 = py3y2 + py2y1 + py2x3 + py1x3 + py1x2 + px3x2 + px3x1 + px2x1 + py3\varepsilon3$

Specification:

X1 = Knowledge and Skills
X2 = Ease of Use perceived
X3 = Uses perceived
Y1 = Attitude toward Behavior
Y2 = Intention to Use
Y3 = Behavior Use
P = coefficient Path (Path Coefficient)
ε = Error

DATA ANALYSIS

Result of Validity and Reliability Test

To determine the consistency and accuracy of data collected from the use of the instrument, it was tested the construct validity by correlating the score of each item with the total score. The value of r-tables with test samples of N = 89 and a significance level of 5%, then discovered the magnitude of r-table is 0.207. The results were present in the following table:

Table 1.
Result of Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
SK1	87.08	87.232	.394	.	.931
SK2	87.17	86.528	.487	.	.931
SK3	87.07	85.745	.596	.	.930
SK4	87.31	85.241	.524	.	.930
SK5	87.28	86.409	.429	.	.931
PU1	87.25	85.938	.411	.	.932
PU2	87.19	85.565	.540	.	.930
PU3	87.11	87.419	.469	.	.931
PU4	87.09	88.242	.356	.	.932
PU5	87.03	85.737	.688	.	.929
PEOU1	86.90	84.842	.668	.	.929
PEOU2	86.89	85.601	.571	.	.930
PEOU3	86.94	86.417	.505	.	.930
PEOU4	86.97	85.828	.560	.	.930
PEOU5	86.93	85.427	.585	.	.930
ATU1	86.93	84.336	.678	.	.928
ATU2	87.01	83.489	.702	.	.928
ATU3	87.08	85.619	.556	.	.930
ATU4	86.98	84.204	.728	.	.928
ATU5	87.17	87.392	.382	.	.932
BI1	87.17	84.164	.667	.	.928
BI2	87.10	84.637	.602	.	.929
BI3	87.16	84.952	.488	.	.931
BI4	87.12	83.655	.602	.	.929
BI5	87.13	84.345	.528	.	.930
AU1	87.92	82.232	.496	.	.932
AU2	87.75	81.825	.603	.	.929
AU3	88.00	84.273	.548	.	.930
AU4	87.69	81.900	.639	.	.929
AU5	87.76	82.364	.575	.	.930

(Source: Primary Data, 2014)

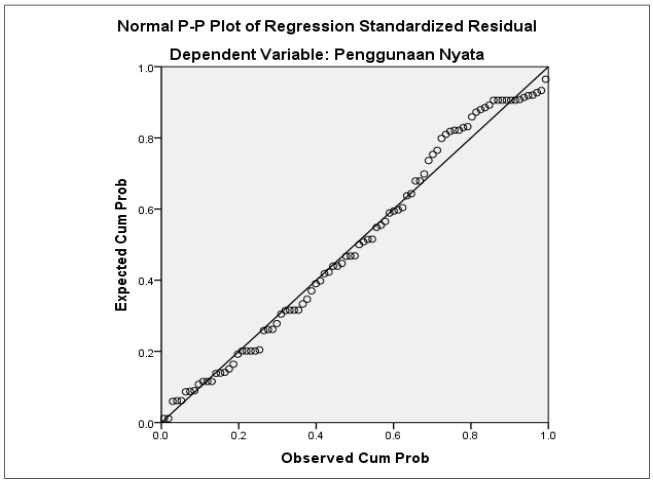
Based on *Pearson Product Moment Correlation*, all the questions (see: the column of *Corrected Item-Total Correlation*) had a value greater than 0.207. Therefore, all the variables questions contained in this research instruments were valid.

Furthermore, the reliability test for this study is presented in Table 3 at the column *Cronbach's Alpha if Item Deleted*. All items are collected through the research instrument is reliable or reliably because *Cronbach's Alpha* value greater than 0.6.

Result of Normality Test

P-Plot graph in Figure 3 shows the normal distribution pattern. It shows the spread of the data (points) on the diagonal axis diagonal line approach. Based normality test guidelines, it is stated that if the spread of the data follow a normal or near-line then it can be said normal. So, it can be concluded that the regression model in this study meets the test for normality.

Figure 2.
Result of Normality Test Using P-Plot Graphs



(Source: Primary Data, 2014)

Result of Correlation Test

In the table 2 below intends the correlation between the variables of knowledge and skills, perceived ease of use, perceived usefulness, attitude towards behavior, behavioral intention, and actual use in using the library automation system based on "Senayan".

Table 2.
Result of Correlation Test

		Knowledge & Skill	Perceived Usefulness	Perceived Ease of Use	Attitude towards Behavior	Behavioral Intention	Actual Use
Knowledge & Skill	Pearson Correlation	1	.518**	.305**	.349**	.466**	.377**
	Sig. (2-tailed)		.000	.004	.001	.000	.000
	N	89	89	89	89	89	89
Perceived Usefulness	Pearson Correlation	.518**	1	.504**	.463**	.490**	.211*
	Sig. (2-tailed)	.000		.000	.000	.000	.047
	N	89	89	89	89	89	89
Perceived Ease of Use	Pearson Correlation	.305**	.504**	1	.754**	.387**	.351**
	Sig. (2-tailed)	.004	.000		.000	.000	.001
	N	89	89	89	89	89	89
Attitude towards Behavior	Pearson Correlation	.349**	.463**	.754**	1	.586**	.282**
	Sig. (2-tailed)	.001	.000	.000		.000	.007
	N	89	89	89	89	89	89
Behavioral Intention	Pearson Correlation	.466**	.490**	.387**	.586**	1	.430**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	N	89	89	89	89	89	89
Actual Use	Pearson Correlation	.377**	.211*	.351**	.282**	.430**	1
	Sig. (2-tailed)	.000	.047	.001	.007	.000	
	N	89	89	89	89	89	89

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

(Source: Primary Data, 2014)

To interpret these figures the following criteria used:

0.00-0.25	=	very weak correlation
> 0.25 To 0.5	=	correlation is quite
> 0.5 to 0.75	=	strong correlation
> 0.75 to 1	=	very strong correlation

Based on the scoring of correlation between variables of each construct it was intended quite strong (2/3) and strong correlation (1/3). The value of strong relationships with the highest (0.741) was intended by the relationship between the perceived ease of use (PEOU) with the attitude towards behavior (AB). While the strong enough relationship with the lowest value of 0,266 was shown by the relationship with the perceived usefulness (PU) of any real use.

In the case of the relationship between variables of the knowledge & skills (SK) with the perceived usefulness (PU) of the correlation, value of 0.541 had a strong and direct correlation purpose. This meant that if there was an increase in the construct of Knowledge and Skills, the Perceived Usefulness would also increase, and vice versa. Correlation of two variables had significant numbers of 0.00 <0.05 then enough evidence to reject Ho; p = 0 and accept Ha; p ≠ 0 so that a significant correlation. Based on the distribution of data correlation test above it could be concluded that all the existing relationship between variables had a significant connection and direction.

Result of Coefficient Determination Test

The value of *R-square* in the table 3 indicated simultaneously the effect of *Coefficient Determination Test***:**

Table 3.
Result of Coefficient Determination Test
(Model Summary)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,326[a]	**,106**	,096	1,869
2	,640[a]	**,409**	,396	1,292
3	,763[a]	**,583**	,586	1,346
4	,687[a]	**,472**	,447	1,684
5	,551[a]	**,304**	,262	2,786

(Source: Primary Data, 2014)

The first model showed that the knowledge and skills (SK) simultaneously affected the perceived ease of use (PEOU) of 0.106. It meant that the influence of knowledge and skills were combined to the perceived ease of use

was 10.6%. In other words, the variability of perceived ease of use of "Senayan"-based library automation system in the library madrassa was 10.6%; while others (80.4%) caused by other variables outside the model.

The representation of larger quantities of other influences caused by other variables outside the model could be determined by subtracting the numbers of its acquisition of the R square on the percentage of 100%. Thus, it could be seen other influences in model 2 of 0.591 (59.1%), model 3 of 0.417 (41.7%), model 4 of 0.528 (52.8%), and the model 5 of 0.696 (69.6 %).

Result of F-Test

Furthermore, to determine whether the regression model above was correct or not, it was necessary hypothesis testing using the F-test as shown in the following table:

Table 4.
Result of F-Test
Perceived Ease of Use (ANOVA[a])

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	36,015	1	36,015	10,311	,002[b]
	Residual	303,895	87	3,493		
	Total	339,910	88			
2	Regression	99,569	2	49,785	29,802	,000[b]
	Residual	143,667	86	1,671		
	Total	243,236	88			
3	Regression	215,257	3	71,752	39,597	,000[b]
	Residual	154,024	85	1,812		
	Total	369,281	88			
4	Regression	212,899	4	53,225	18,776	,000[b]
	Residual	238,113	84	2,835		
	Total	451,011	88			
5	Regression	280,665	5	56,133	7,234	,000[b]
	Residual	644,054	83	7,760		
	Total	924,719	88			

(Source: Primary Data, 2014)

Based on the results of processing the data in Table 4 F-test indicated that the value of the F-count in model 1 obtained at 10.311 with a significance value of 0.002 was smaller than the value of the probability (p-value) 0.05 (0.002 <0.05). With a significance level of 5% and degrees of freedom (DF) 1 = 1 and (DF)2 = 89, it's obtained the F-table = 3.948. Because the value of F-count (10.301) > F-table (3.948), then H_0 was rejected and H_1 was accepted. There was a linear relationship between knowledge and skills with the perceived ease of use and the regression models could be said to have a decent and correct. Likewise, the next linear relationship model could be said to exist relationship and already worthy and true, this was due to have the value of F-count > F-table (3.948) and a significant value (Sig. Value) was smaller than the value of probability (0.05).

Result of T-Test

In the next stage, to see the effect of each T-test variables that was used partially, we could look at the magnitude of the numbers or the *Standardized Coefficient beta*. Here was to see whether there was a linear relationship between knowledge and skills and perceived ease of use, then the hypothesis was determined as follows:

H_0: There is no significant effect between the knowledge and skills of the perceived ease of use.

H_a: There is a significant effect between the knowledge and skills of the perceived ease of use.

Tabel 5.
Result of T-Test
Perceived Ease of Use (Coefficients[a])

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	11,131	1,665		6,687	,000
	Pengetahuan dan Keterampilan	,350	,109	,326	3,211	,002

a. Dependent Variable: Kemudahan Penggunaan Persepsian

(Source: Primary Data, 2014)

Hypothesis test criteria were:

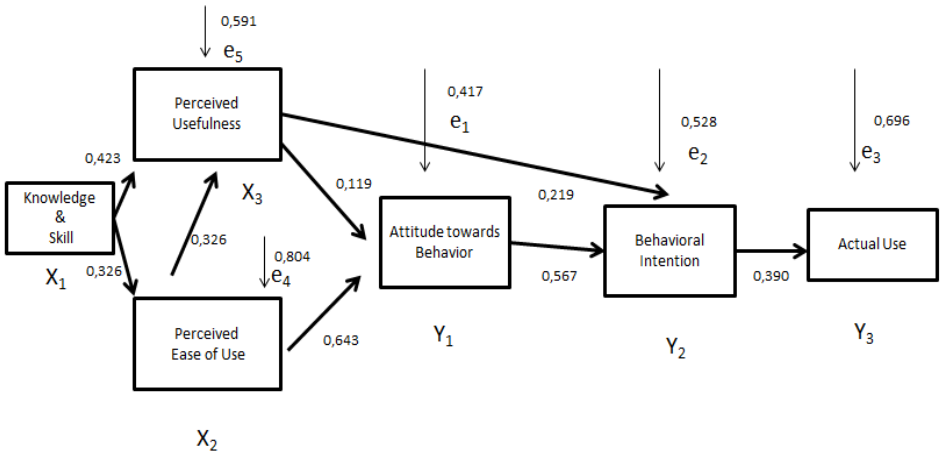
If the t-research > t-table then H_0 rejected and H_1 accepted.

If the t-research < t-table then H_0 accepted and H_1 rejected.

The result was 3,211 of t-research > 1.663 of t-table, so that it rejected H_0 and accepted H_1. There was a linear relationship between knowledge and skills with the perceived ease of use. The knowledge & skills (X1) effected on the perceived ease of use (X2) of 0.326 or 32.6%.

The path diagram in the figure 3 indicated the overall the direct effect of each variable:

Figure 3.
Line of the Model Research



(Source: Primary Data, 2014)

- Sub Structural Equation Model 1: X2 = 0.326 + px2ε4
- Sub Structural Equation Model 2: X3 = 0.423 + 0.326 +0.326 + px3ε5
- Sub Structural Equation Model 3: Y1 = 0.119 + 0.643 + 0,423+ 0.326 + 0.326 + py1ε1
- Sub Structural Equation Model 4: Y2 = 0.567 + 0.219 + 0.119 + 0.643 + 0,423+ 0.326 + 0.326 + py2ε2
- Sub Structural Equation Model 5: Y3 = 0.390 +0.567 + 0.219 + 0.119 + 0.643 + 0,423+ 0.326 + 0.326 + py3ε3

From the description, it could be described acceptance and rejection of the hypothesis of the study as follows:

Table 6.
Result of Hypotesis Test

Hypotesis	Relationship	Result T-Test	Effect Value	Note
H_1	SK → PEOU	3,211 > 1,663	0,326	Accepted
H_2	SK → PU	4,822 > 1,663	0,423	Accepted
H_3	PEOU → PU	4,131 > 1,663	0,326	Accepted
H_4	PEOU → AB	7,926 > 1,663	0,643	Accepted
H_5	PU → AB	1,304 < 1,663	0,119	Rejected
H_6	PU → BI	2,099 > 1,663	0,219	Accepted
H_7	AB → BI	4,617 > 1,663	0,567	Accepted
H_8	BI →AU	3,090 > 1,663	0,390	Accepted

(Source: Primary Data, 2014)

The constructs in the model described that the results of T-test hypotheses 1 and 2 in table 6 above showed a significant relationship between the knowledge and skills (SK) with the perceived ease of use (PEOU) and perceived usefulness (PU), both the value of t-research was greater than t-table. This study showed that external

constructs of knowledge and skills of madrassa library staff after taking the training program was associated with the perceived ease of use (PEOU) of the "Senayan"-based library automation system.

This was evidenced by the average value of the knowledge and skills of the management staff of the madrasah library amounted to 3.03 in the range of 0-4 grades (see table 7). The average value showed that the knowledge and skills of the madrassa library staffs who had attended the training on the "Senayan"-based library automation system was high.

Table 7.
The Average of Acquisition Constructs

Konstruk	Rata-rata	Keterangan
Knowledge & Skill (SK)	3,03	Tinggi
Perceived Ease of Use (PEOU)	3,09	Tinggi
Perceived Usefulness (PU)	3,30	Tinggi
Attitude toward Behavior (AB)	3,18	Tinggi
Behavioral Intentions (BI)	3,08	Tinggi
Actual Usage (AU)	2,39	Rendah

(Source: Primary Data, 2014)

DISCUSSION

From the answers given by the madrassa library staffs, it showed that their knowledge of library automation program based on "Senayan" could be used applying automation in library activities functions. It ranked highest with an average of 3.13. As well as their skills in installing, the program was high, despite being in the lowest rank (2.90) compared to the average of other variables in the construct knowledge and skills.

Knowledge and skills of madrassa library staffs obtained from the results of training had been building their perceptions of the ease and usefulness of the program "Senayan" in the implementation of computer-based library management. Theory of social cognitive explains that the variables of knowledge and skills as self-development on the computer (computer self-efficacy) can affect the use of the system (Bandura, 1977). Several studies (Agarwal and Parsad, 1999; Gefen and Straub, 1997; Karahanna et al., 1999; Igbaria, 1995) have proved that training relates positively with PU and PEOU.

An overview of the questionnaire filled out by respondents' showed that the average of PU and PEOU were 3.30 and 3.09. This picture indicated the perception of usefulness as well as ease of use of the madrasah library staff on "Senayan"-based library automation system was high.

It could be seen that the image perceived ease of use of these constructs had the highest average of 3.18 was the ease of variables to manage the functions of library activities. Meanwhile, the variable on the ease of installation

of "senayan" on personal computers occupied the last rank with an average value of 2.97. That was, if the construct linked to construct knowledge and skills above, still occupied the lowest rank.
The respondents gave some suggestions and criticisms which some of them suggested that the installation process was given more time. Some obstacles encountered by respondents when doing the installation process was constrained by mounting other support programs (web server program) which consisted of a package of programming languages, database, and browser. In this case, Rida et al. (2014) explained that "senayan" is a web-based application developed on multi-platform, which means it can run natively in almost all operations that can run PHP programming language and MySQL RDBMS.

Furthermore, the results of hypothesis tests 3 and 4 showed that the construct perceived ease of use (PEOU) had a significant relationship with the construct perceived usefulness (PU) and attitudes towards behavior (AB). It was as stated by Jogianto (2007) that constructs affected the perceived ease of use and attitudes towards behavior (AB). This construct was also a belief about the decision-making process. If a person felt confident, that the information system was easy to use and he would make use of it.

Acquisition of a picture of high-perceived ease of use of library information systems based on "Senayan" gave a decision to the madrassa library staff in understanding the usefulness of the system; it indicated the high average value of the perceived usefulness and attitude toward the use of the system. In contrast to some previous studies, the hypothesis 5, the results showed that there was no linear relationship between the perceived usefulness (PU) and the attitudes towards behavior (AB). In fact, as described above hypotheses 6 showed the perceived usefulness was no linear relationship to the behavioral intention (BI). Several studies (e.g. Davis, 1989; Chau, 1996; Igbaria et al., 1997; Sun, 2003) had proved that the perceived usefulness construct the most significant and important in influencing attitudes in using technology than other constructs.

In the constructs of the attitude towards behavior (AB) it was obtained a description with an average of 3.18, so that it could be concluded to have high average value. Almost the same, the characteristics of the behavioral intention had an average of 3.08.

The rejection of the linear relationship between the perceived usefulness (PU) with the attitudes towards behavior (AB) had been shown also on research conducted by Farhansyah et al. (2012) where the PU was generated by the library information system had no effect on its acceptance. Similarly, in the case of acceptance of the library automation system based on “senayan” by staffs, that they tended to choose the program because of the convenience factor of the usability.

The value of usability in library automation related to the usefulness of the basic functions that were used in household library system. As explained by Dhanavandan (2012: 667) that the function of the library automation system covered all technologies used by libraries for procurement, processing, storage, retrieval, dissemination, and distribution of all kinds of information locally, regionally, nationally, and internationally.

Furthermore, the hypothesis 7 had a significant influence between the attitudes towards behavior (AB) with the behavioral intention (BI). The average of AB was highest in the statement by addressing the madrasah library staff that the library automation system based on "senayan" accelerated information services. While most variable was lowest in the statement about "senayan" as a piece of software that was most easily compared to other free software (such as: Green stone; GDL, Imelda, etc.). This showed that the madrassa library staffs were still addressing the possibilities for other software that was easier to use even though they already feel about the speed of service information by using the program.

In the construct of the behavioral intention (BI), the average rate was highest in the statement of intent to use the library automation system in the implementation of tasks in the library, even though they had not been able to use it. While the average rate of intention to use the program after studying the implementation of the tasks of the library was lowest.

This fact showed that the madrassa library staffs had not implemented the program to carry out their duties. This could be seen in the last construct, the actual use (AU) of library automation system based on "senayan" in a task with an average value was 2.4 (low). However, when in terms of influence between BI and AU there was a significant relationship between the behavioral intention and the actual use of this automation system.

The several obstacles that lead to low the actual use of the automation system could be seen from some of the suggestions written on the questionnaire sheet, one of which was caused by the unavailability of computer facilities in each madrassa, even many madrassas had not have a library room.

CONCLUSION

The influence of the constructs with others almost all showed positively and significant, where the T-research value of each construct to others showed a greater than T-table. Only construct perceived usefulness (PU) on attitudes toward the use of (BA) which did not show any significant influence to the value T-research (1,304) was smaller than T-table (1.663). Instead, the greatest impact occurred in between constructs perceived ease of use (PEOU) and attitudes towards behavior of (AB) with a value of T-research 7.929 and influenced the value of 64.3%.

The result of the study recommended the implementation of training the library automation program based on "senayan" for the staffs of the madrassa library should pay more attention to aspects of the perceived ease of use (PEOU) of the available menu functions from the software. This perception should be an insight in providing materials and training methods that could describe the usefulness or usefulness simplicity of use of the system. The implementation of the materials and methods build indirectly the perception of easiness and usability of the software. Thus, the attitude towards behavior and behavioral intention will automatically wake up and affect actual use the library automation application. In addition, the actual use of the program in the madrassas needs to pay attention to the readiness of computer facilities and other supporting information technology devices used as soon as possible the training has been done. The better support for the provision of facilities, the higher the acceptance of actual uses library automation program.

BIBLIOGRAPHY

Adamson, Veronica, et al. 2008. "An Evaluation and horizon scan of the current library management systems and related systems for UK higher education landscap", JISC Reports & SCONULLMS Study, London.

Aji Supriyanto. 2005. Pengantar Teknologi Informasi. Jakarta: Salemba Infotek.

Bilal, Dania. 2001. Automating media centers and small libraries: a microcomputer-based approach. Englewood: Libraries Unlimited.

Cohn, John M. et al. 2001. Planning for Integrated Systems and Technologies: a how-to-do-itmanual for librarians. New York: Neal-Schuman Publishers, Inc.

Devi, Ni Luh Nyoman Sherina and I Wayan Suartana. 2014. "Analisis Technology Acceptance Model (TAM) Terhadap Pengguna Sistem Informasi di Nusa Dua Beach Hotel dan Spa". E-Journal Akuntansi Universitas Udayana, Vol. 6, No.1 (Bali: Unud, 2014). P. 169.

Dhanavandan, S. and M. Tamizhchelvan. 2012. "An Evaluative of Automation Software Application and Database Management Systems in Academic Libraries". Journal of Emerging Trends in Computing and Information Sciences. Vol. 3, No.5, May 2012. P. 677

Faisal, S.L. and B. Surendran. Report on Automation of Libraries at Kendriya Vidyalaya Patton Thiruvananthapuram. Accessed from http://id.scribd.com/doc/192266006/Library-Automation April 22nd, 2014

Farhansyah, Widya Cholil and Hutrianto. 2012. Analisis Sistem Informasi Perpustakaan pada Badan Perpustakaan Daerah Palembang dengan Menggunakan Metode Technology Acceptance Models (TAM). (Palembang: Universitas Bina Dharma, 2012). Accessed from http://digilib.binadarma.ac.id/gdl.php?mod=browse&op=read&id=123-123-farhansyah-4723 May 23rd, 2014.

Fred D. Davis. "Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology". MIS Quarterly, Vol. 13, No. 3 (Sep., 1989), hal. 319-340. Accessed from i http://www.jstor.org/stable/249008 tanggal 13/2/2014.

Grant, Carl. 2012. "The Future of Library System: Library Service Flatforms". Information Standards Quarterly. Vol. 24 (Fall 2012), P. 5

Husein Umar. Metode Riset Perilaku Konsumen Jasa. (Jakarta: Ghalia Indonesia, 2003). P. 64.

Ida Rochmawati. 2012. Optimalisasi peran madrasah dalam pengembangan system nilai masyarakat. PEDAGOGIA. Vol. 1, No. 2, Juni. Accessed from http://journal.umsida.ac.id/files/IdaV1.2.pdf 161-171.

Imam Yuadi. 2009. Analisis Technology Acceptance Model terhadap Perpustakaan Digital dengan Structural Equation Modeling. Departemen Ilmu Informasi dan Perpustakaan. Accessed from http://palimpsest.fisip.unair.ac.id/images/pdf/imam.pdf tanggal 27/02/2014. P. 3

Indonesia. Kemendiknas RI. 2008. Peraturan Menteri Pendidikan Nasional No. 25 tahun 2008 tentang Standar Tenaga Perpustakaan Sekolah/Madrasah. Jakarta: Kemendiknas RI.

Indonesia. Perpusnas RI. 2011. Standar Nasional Perpustakaan. Jakarta: Perpusnas RI.

Indonesia. Presiden RI. 2005. Undang-undang No. 20 Tahun 2005 Tentang Sistem Pendidikan Nasional (Sisdiknas). Jakarta: Sekretaris Negara Republik Indonesia. P. 2

Indonesia. Presiden RI. 2007. Undang-undang No. 43 Tahun 2007 Tentang Perpustakaan. Jakarta: Sekretaris Negara Republik Indonesia. P. 12

Jogiyanto, 2007. Sistem Informasi Keperilakuan, Yogyakarta: Andi Offset.

Kochtanek, Thomas R. dan Joseph R. Matthews. 2002. Library Information System: from library automation to distributed information access solutions. Westport, Connecticut: Libraries Unlimited,

Lakshmikan Mishra. 2008. Automating and Networking of Libraries.Delhi: New Age International.

Lambertus P. Wairisal dan Nur Khusniyah I. 2012. "Analisis Perilaku Penggunaan Teknologi Informasi (Studi pada Dosen Universitas Pattimura Ambon)". Jurnal Aplikasi Manajemen, Vol. 10, No. 4. P. 763.

Neelakandan. 2010. "Implementation of Automated Library Management System in the Schoolof Chemistry BharathidasanUniversity using Koha Open SourceSoftware", International Journal of Applied Engineering Research, Dindigu, Vol. 1, No. 1, ,2010 P.149. Accessed from http://www.ipublishing.co.in/jarvol1no12010/EIJAER1014.pdf.

Rasyid Ridho, M. 2009. Panduan Penggunaan Aplikasi Software Senayan. P. 5. Accessed from http://perpustakaan.kemdiknas.go.id/rido_files/ penggunaan_slims_perpus.pdf February 28th, 2014.

Samsul S. 2008. Eksistensi Madrasah dalam Pendidikan Indonesia. Madrasah Vo. 1 No. 1 (July –December 2008) tersedia di http://download.portalgaruda.org/article.php?article=115743&val=5278

Schultz-Jones, Barbara. 2006. An automation primer for school library media centers and small libraries. Worthington, OH: Linworth Books.

SLiMS, "Dokumentasi SLiMS Berdasar SLiMS-7 (CENDANA) v.1.7. Accessed from http://slims.web.id/web/documentation . July 29th, 2014.

Smarkola, Claudia. 2011. A Mixed-methodological technology adoption study. Dalam Timothy Teo. Technology Acceptance in Education: Research and Issues. Rotterdam: Sense Publishers.

Sugiyono. 2007. Metode Penelitian Kuantitatif, Kualitatif, dan R&D. Bandung: Alfa Bank.

Sugiyono. 2011. Statistika untuk Penelitian. Bandung: Alfabeta.

Sulistiyani e.t. 2010. Panduan Pelaksanaan Program Percepatan Akreditasi Madrasah. Jakarta: Kemenag RI. Accessed from http://luk.staff.ugm.ac.id/atur/rbi/AkreditasiSekolahMadrasah.pdf May 23rd, 2014.

Davis, F.D. 1986. "A Technology Acceptance Model for Empirically Testing New End-User Information Systems: Theory and Results," Doctoral dissertation, MIT Sloan School of Management, Cambridge, MA . Accessed from http://dspace.mit.edu/handle/1721.1/15192 May 24th , 2014.

Taylor, Shirley dan Peter A. Todd. 1995. "Understanding Information Technology Usage: A Test of Competing ModelsAuthor(s)". Information Systems Research, Vol. 6, No. 2 (JUNE 1995), hal. 144-176. Accessed from http://www.jstor.org /stable/23011007 February 20th, 2014.

Tiwari. 2002. Evaluation of Electronic Libraries. New Delhi: Efficient OffsetPrinters.

Tony Wijaya. 2012. Praktis dan Simpel Cepat Menguasai SPSS 20 untuk Olah dan Interpretasi Data. Yogyakarta: Cahaya Atma Pustaka.

Vaughan,Jason dan Kristen Costello. 2011, "Management and Support of Shared Integrated Library Systems," Vol. 30 , no 2 (June 2011) : P. 62

Vita Risma Yunita. 2013. Analisis Tingkat Kepuasan Pemustaka Terhadap Sistem Otomasi Perpustakaan dengan Pendekatan Technology Acceptance Model di Perpustakaan Universitas Kristen Duta Wacana Yogyakarta. Skripsi. Yogyakarta: UKDWY.

Webber, Desiree dan AndrewPeters. 2010. Integrated library systems : planning, selecting, and implementing. Kalifornia: ABC-CLIO, LLC.