UTAUT Model for Understanding Quality Management System

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Abstract: In order to achieve service excellence through continuous improvement, XYZ University has implemented the Quality Management System (QMS) ISO 9001:2008 in compliance with IWA 2. Given that there has been less or no research discussing the acceptance of QMS portal in university, this study can provide insights on that matter. Unified Theory of Acceptance and Use of Technology (UTAUT) model is used in this study with the aim of investigating the factors that influence the acceptance and use of QMS portal technology used in XYZ University. The results of this study indicate that the most significant variable is the attitude toward using technology.

Keywords—Quality Management System; UTAUT; acceptance; use of technology

1. INTRODUCTION

At present, many organizations and educational institutions have implemented Information System and Information Technology (IS/IT), this has become an important role for educational institutions to achieve their goals [1] and to become winners in the era of global markets and competition [2]. IT/IS changes the way management conducts business, including education [3]. Hence in education, IT is considered as the application of a digital environment to all aspects of teaching and learning [4]. Professional information systems have explained this phenomenon as a significant development in the fields of e-commerce, business, and banking [5]. Information Communication and Technology (ICT) applications allow service providers to provide Quality Management Systems (QMS) learning faster and more efficiently [6]. IT/IS is used to provide costs and benefits in many organizations including education [7]. In recent years, more and more business people, both large companies and organizations, have shifted to digital businesses [8].

Implementation of ISO 9001 and Quality Systems is intended to demonstrate the ability of XYZ University continuously in an effort to produce educational services by meeting the needs of students and other stakeholders through the implementation of effective education systems and continuous improvement of processes in all departments by referring to national education laws and regulations [9]. The problem formulation of this research is to find out what variables influence the acceptance and use of QMS at XYZ University.

The success of short-term and long-term businesses depends on the ability of businesses to provide quality products, services, and teaching [10]. The organizational quality system is currently systematized under three levels: operational, tactical and strategic in accordance with the maturity of quality management presented by educational institutions [11]. QMS at XYZ University is an intranet application that can only be accessed in the office by employees who have an e-mail domain that has access rights.

The problem of technology acceptance has been studied quite extensively in IT / IS research [6]. Investigation of theories and models can be used and implemented to predict and explain behavior in many domains [12]. Zhou and Lu suggested the UTAUT model as an extension of TAM [13] [14].

The study of Technology Acceptance Model (TAM) in other fields consistently found that when participants considered technology and environment useful, the possibility of accepting IT / IS increased [6]. The Unified Theory of Acceptance and Use of Technology (UTAUT) was developed to predict the adoption of users of information technology and information systems [15]. The purpose of this study is to identify UTAUT variables that affect the acceptance level of users of Quality Management System (QMS) in XYZ University and identify the relationship between UTAUT variables that affect the level of QMS usage in XYZ University.

2. RESEARCH METHOD

Before The research methodology used is multiple regression methods by collecting primary data obtained through questionnaires. Questionnaire samples were carried out in a simple random manner. The research instrument using the UTAUT scale was developed from Venkatesh, Morris, Davis and Davis [15] [16].

The study population is staff or employees of XYZ University who have the right of access to the University's Quality Management System. The sampling technique was done in a simple random manner. From the total 48 questionnaires distributed, the number of the returned and valid questionnaires were 41 questionnaires.

Data collection was carried out by distributing questionnaires containing 18 item statements as follows:

1. Performance Expectancy (PE): 4 statement points

2. Attitude toward using Technology (AT): 4 statement points

3. Social Influence (SI): 4 points statement

4. Facilitating Condition (FC): 1 points statement

5. Behavioral Intention (BI): 3 statement points

6. Actual Use: 2 statement points.

The proposed hypotheses are as follows:

Hypothesis 1: Facilitating conditions will have a significant impact on actual use using QMS.

Hypothesis 2: Performance expectancy will have a significant impact on actual use using QMS.

Hypothesis 3: Attitude toward using technology will have a significant impact on actual use using QMS.

Hypothesis 4: Social influence will have a significant impact on actual use using QMS.

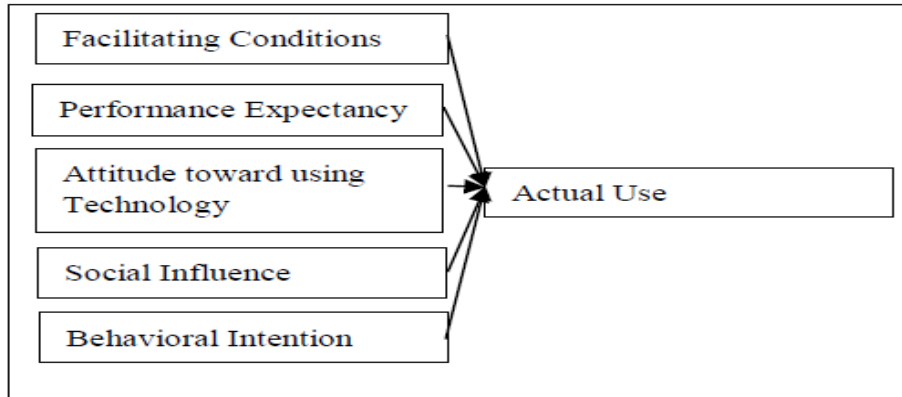Hypothesis 5: Behavioral intention will have a significant impact on actual use using QMS.

Fig. 1. *Research Model*

3. RESULT AND DISCUSSION

After conducting validity and reliability test along with classic assumption test, the next step is to do multiple linear regression tests to determine the level of significance of the effect of independent variables on the dependent variable.

Hypothesis testing is carried out partially and then carried out simultaneously. The results of the t test for testing hypotheses 1 through 5 partially with a significance level of $\alpha = 5\%$ and observations as much as n = 41, using the SPSS application program.

Table 1: Result of Partial Hypotheses Test

Coefficients [a]							
Unstandardized Coefficients Standardized Coefficients						Collinearity Statistics	
Model	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1 (Constant)	.154	.687		.224	.824		
FC (X1)	-.133	.135	-.154	-.988	.330	.591	1.692
PE (X2)	.015	.280	-.010	-.052	.959	.399	2.507
AT (X3)	.631	.238	.553	2.649	.012	.328	3.048
SI (X4)	.324	.213	.243	1.518	.138	.556	1.797
BI (X5)	071	.178	.072	.398	.693	.434 2	.305
a. Dependent Variable: use							

Based on the results of the analysis, the p-value (sig.) for the facilitating condition (X1) variable indicator is 0.330, which is greater than α 5% (0.05) so for the results of Hypothesis 1, Ha is rejected and H0 is accepted, indicating that there is no significant influence facilitating condition for the use of QMS.

While for the indicator of performance expectancy variable (X2), the p-value (sig.) of 0.959 which is greater than α 5% (0.05); therefore for the results of Hypothesis 2 Test, Ha is rejected and H0 is accepted, which means there is no significant effect of performance expectancy on the use of QMS.

While for the attitude variable indicator toward using technology (X3) the p-value (sig.) is 0.012 that is smaller than α 5% (0.05); therefore for the results of Hypothesis 3 Test, H0 is rejected and Ha is accepted, which means that there is a significant effect the attitude toward using technology on the use of QMS.

Whereas for the indicator of social influence variable (X4) the value of p-value (sig.) is 0.138 which is greater than α 5% (0.05); therefore for the results of Hypothesis 4, Ha is rejected and H0 is accepted, which means there is no significant influence of social influence on the use of QMS.

For the behavioral intention (X5) variable, the value of p-value (sig.) is 0.693 which is greater than α 5% (0.05); therefore for the results of Hypothesis 5 Test, Ha is rejected and H0 is accepted, indicating that there is no significant influence of behavioral intention towards the use of QMS.

Based on regression result of facilitating condition variable (X1), the regression coefficient (B1) is -0.133, which according to the t-test the value of B1 statistically equals to zero. While the regression result of the performance expectancy variable (X2) produce a regression coefficient (B2) of -0.015, which statistically equals to zero. The results of the regression attitude toward using technology variable (X3) produced a regression coefficient (B3) of 0.631 which means that when there is a change in the prediction of X3 by one unit, it causes a change in the average QMS usage of 0.631 units assuming that other predictors are constant.

Table 2: Result of Simultaneous Hypotheses Test

ANOVA b					
Model	*Sum of Squares*	*df*	*Mean Square*	*F*	*Sig.*
1 Regression	15.698	5	3.140	6.981	.000a
Residual	15.741	35	.450		
Total	31.439	40			
a. Predictors: (Constant), BI, FC, SI, PE, AT					
b. Dependent Variable: use					

The regression result of the social influence variable (X4) results in a regression coefficient (B4) of 0.324 which means that when there is a change in the prediction of X4 by one unit, it causes an average change in the QMS usage of 0.324 units assuming that other predictors are constant. The regression result of behavioral intention variable (X5) results in a regression coefficient (B5) of 0.071 which means that if there is a change in predictor X5 by one unit, the average change in the QMS usage is 0.071 units assuming other predictors are constant. The biggest regression coefficient is produced by the attitude toward using the technology variable indicating to be the dominant factor that influences the QMS usage.

Anova test results (F test) describe the hypothesis as a whole. From the value of F test, one of the accepted hypotheses will be known, whether H0 or Ha. The results of the F test process for the overall alternative hypothesis with a significance level of α = 5% and the number of observations n = 41 using the SPSS application program.

The result of the F test produces p-significant or p-value (sig.) in the F test with a value of 0,000 smaller than α 5% (0.05). This means the results of joint testing; The null hypothesis (H0) is rejected, so that there is a significant effect of facilitating condition, performance expectancy, the attitude toward using technology, social influence, and behavioral intention together towards the QMS usage.

Table 3: Coefficient of Determination

Model Summary b				
	Adjusted R			*Std. Error of the*
Model	R	R Square	Square	Estimate	Durbin-Watson
1	.707[a]	.499	.428	.67063	1.971
a. Predictors: (Constant), BI, FC4, SI, PE, AT					
b. Dependent Variable: use					

Based on the analysis, it is obtained that the R value of 0.707 is greater than the critical value (0.5) [17] which states that R is a multiple correlation coefficient to measure the strength of the relationship of several independent X variables with Y. R2 value (coefficient of multiple determination) is used as a goodness of fit test; the greater the value (close to 1) the better the prediction will be. Therefore the value of R 0.707 shows that the correlation between the five independent variables (facilitating condition, performance expectancy, attitude toward using technology, social influence, and behavioral intention) with the QMS usage is very strong.

While adjusted R Square shows that 43% variation in the QMS usage can be explained by variations of five independent variables (facilitating condition, performance expectancy, attitude toward using technology, social influence, and behavioral intention). While the remaining 57% is influenced by other factors. The results of this study are consistent with the research conducted by Ahmed, Kader, Rashid, and Nurunnabi [14] where Effort Expectancy variables did not have a significant and different effect compared to the researches conducted by Sedana and Wijaya [16]; Ami-Narh and Williams [6]; Oye, Iahad, and Ab.Rahim [4] along with Attuquayefio and Addo [3] where the Effort Expectancy variable has a significant effect.

Figure Labels: Use 8 point Times New Roman for Figure labels. Use words rather than symbols or abbreviations when writing Figure axis labels to avoid confusing the reader. As an example, write the quantity "Magnetization," or

"Magnetization, M," not just "M." If including units in the label, present them within parentheses. Do not label axes only with units. In the example, write "Magnetization (A/m)" or "Magnetization (A (m(1)," not just "A/m." Do not label axes with a ratio of quantities and units. For example, write "Temperature (K)," not "Temperature/K."

4. CONCLUSION

Based on the results of the research obtained, conclusions can be taken as follows:

1. Partially, it was found that the variables facilitating conditions, performance expectancy, social influence, and behavioral intention did not significantly influence the QMS usage in XYZ University, while the Attitude toward Using Technology variable was an independent variable that had a significant effect on the QMS usage in XYZ University.

2. There is a significant influence between the variables facilitating condition, performance expectancy, attitude toward using technology, social influence, and behavioral intention together towards the QMS usage in XYZ University.

3. The biggest regression coefficient is generated by the attitude toward using technology, so it can be concluded that the attitude toward using technology is the dominant factor that influences the QMS usage in XYZ University.

4. Variation in the QMS usage in XYZ University is 43%, can be explained by variations of the five independent variables (facilitating conditions, performance expectancy, attitude toward using technology, social influence, and behavioral intention). While 57% is influenced by other factors not included in this study.

5. ACKNOWLEDGMENT

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